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CLINICAL LECTURE.

SUPPURATIONS OF THE HAND AND FORE- ARM.

BY PROF. LE DENTU.

DELIVERED AT L'HOSPITAL NECKER.

Gentlemen: I will take the opportunity to speak to you on a practical point of the greatest importance. You have seen me make an incision on the forearm of a woman, 42 years of age, occupying a bed in the Lenoir ward, and each one of you, perhaps, has been astonished at seeing me cutting not only the superficial layers, but penetrating deeply into the muscles of the forearm. It was there that I found the seat of suppuration.

The history of this patient is quite simple. On the 19th of May she was pricked on the thumb by a corset steel (notice the date for it is only eight days ago), and she was satisfied with wrapping the injured finger in a rag moistened with arnica. On the following day she began to experience upon the thumb sharp pains which soon extended to the forearm, and finally the elbow. When she entered the Hospital, four days after the accident, there was established, beginning at the point of the original lesion, an oedematous redness extending along the palmar eminence and upon the dorsal portion of the corresponding hand, as far as the forearm. The oedematous swelling was considerable and the pain so acute that, in order to relieve this, I had to make an incision upon the dorsal surface on the level of the commissure between the thumb and the index finger, but without success, as I found no pus there. Neither this procedure, nor the bathing of the arm and the antiseptic dressings applied, produced any relief in the intense sufferings of the patient. Moreover, the fever persisted and yesterday I found

signs of a deep inflammation of the forearm. There was noticed only a slight redness, but the inferior extremity of the forearm presented a cylindrical form and a clammy condition. Upon the anterior surface, about two fingers' breadth above the wrist, I felt a deep fluctuation. You have seen me chloroformize the patient and give exit to the purulent collection which occupied all the muscular space opposite the pronator.

I will now take occasion to give you some ideas about suppurative inflammations of the wrist and forearm, a very interesting study, one which has not of late been examined thoroughly. Among the authors of the beginning of the present century, Boyer for example, none has devoted a single chapter to suppurations of the hand, although Berard, in his dictionary, has given a short history of the subject. Velpeau, however, was the first to make a good study.

From the time of Bauchet two types of the disease have been recognized: a clear, phlegmonous form; and the second, no other than a synovitis of the tendinous sheaths. This is probably the first time in which a difference has been established between an inflammation of the tendinous sheaths and that which is developed otherwise.

Regarding the study of deep phlegmons, Dolbeau, about 1867, introduced in a general way a new idea, that of lymphangitis. He would explain how from a wound of the wrist or hand, wherever situated, the infectious products (to-day we speak of them as microbes) would be absorbed by the lymphatics and arrested at the point where the future phlegmon would appear. This is the pathogenesis admitted to-day with regard to the origin of adeno-phlegmons. As in an instance in which we may have first a simple adenitis, then a ganglionic phlegmon or an adeno-phlegmon, so in the case at present under consideration, there was at first a lymphangitis, followed by a peri-lymphangitis in the cellular tissue. I may not be perhaps entirely justified in speaking of a

lymphangitis of the forearm, since Sappey has described along the path of the deep lymphatics of the forearm small ganglia which are sometimes rudimentary, presenting an appearance of confluent lymphatics, and it may be that the deep suppurations referred to are nothing else but adeno-phlegmons of those ganglia. However, this being a matter of hypothesis, it seems to me that Dolbeau's theory relative to deep abscesses being the result of a lymphangitis, is true on the whole. Nevertheless, I am obliged to act reservedly regarding a broad generalization of such a theory.

This theory has been combated especially by Gasselin who has endeavored to demonstrate that suppurative synovitis of the hand is of a primary nature, whereas Dolbeau considers it as a secondary manifestation. Gasselin bases his arguments upon certain facts. The principal of these is the description he has given in one of his clinics of the hand of a patient who died from the results of a phlegmon caused by a puncture of the little finger. On post-mortem examination a suppurative inflammation limited to the sheaths was found. To this argument Gasselin adds that the theory of Dolbeau cannot be demonstrated from an anatomical point of view. Now, this is true, but it is precisely one of the characteristic features of lymphangitis to exhibit the seat of suppuration far from the primary lesion, and we do not hesitate in attributing to a lymphangitis an abscess of the axilla, coming on several days after a wound of the hand. The second objection of Gasselin is that these abscesses must be situated along the passage of the radial and ulnar arteries, because it is through such tracks that the principal lymphatics go. Again, not only can it be seen that the abscesses follow these paths, but it must not be forgotten that lymphatics accompany interosseous vessels, and they are precisely the ones that are found to be affected. Finally, Gasselin has remarked that these phlegmons are always observed after lesions of the thumb and little finger. Now, this assertion is too absolute, and if in our patient the wound is situated on the thumb, it is remarkable that it should occupy the dorsal face of the first phalanx. In regard to tendinous stiffness and consecutive adhesions, these are probably due to a plastic synovitis of a secondary nature, similar to that observed in carpal and digital articulations.

We will admit, then, two forms of suppuration of the hand: the primary suppurative synovitis and the lymphangitis with a

distant abscess. I will endeavor to show you how to make, from a clinical point of view, at least in a certain number of cases, the diagnosis between primary synovitis and lymphangitis.

The first and most important thing to consider is the seat of and nature of the lesion which is the starting point of subsequent troubles. I will recall to your minds that the external carpo-phalangeal synovial sac sends a prolongation to the end of the flexor of the thumb, and that the internal carpo-phalangeal synovial sac sends a similar one to the head of the first phalanx of the little finger. Thus, the deep lesion bearing upon the palmar face of these two fingers must be due to a direct wound of the synovial sac. A second valuable sign is the *position of the fingers*, which is somewhat characteristic. In cases of synovitis they always bend towards the palm of the hand, this flexion becoming more and more pronounced. On endeavoring to extend the fingers more or less forcibly, an extremely sharp pain is produced, and sometimes, at the beginning of the disease, a kind of starchy crepitation is perceived. This phenomenon is of short duration and not of frequent occurrence in suppurative synovitis; it shows the existence of a plastic exudation, which is rapidly followed by suppuration. It is much more frequently observed in the primary synovitis, without wound, particularly in the rheumatismal and blenorragic forms of this disease. You must also look for the pain produced by simple pressure, limited to the anatomical direction of the sheaths, at least during the period which precedes that of pus formation. When a liquid exudation supervenes, a fluctuation is established which still remains, generally, limited to the region of the sheaths.

On the other hand, let us examine the signs of a lymphangitic phlegmon. I have told you all about the wounds in the case of synovitis. If, therefore, instead of a deep lesion you come across a simple excoriation situated on the dorsal face or the lateral side of any finger, you may be justified in thinking of having to deal with a lymphangitic phlegmon. The deformity of the fingers appears in a less rapid manner; it is possible to extend them at the onset of the affection, but later their condition assumes a similar character to that of the previous form described, since, unfortunately, there may come a certain degree of synovitis.

With regard to the oedema and the swelling, I may remark that in the case of lymphangitis, they are more diffuse and tend

rapidly to invade the dorsal surface of the hand.

The principal seat of suppuration is the interdigital space, especially the first one if the point of entrance is at the index finger. At this point the infiltration may be abundant, and as the fluctuation is apt to be deceiving it is well to verify it by practising an exploration. The oedema is very diffuse.

In a lymphangitic phlegmon the suppuration comes on in a very irregular manner, and is apt to appear at any point. Frequently, it makes its appearance from the start on the dorsal surface. On the anterior region it is developed in the connective tissue surrounding the median nerve, but it does not stop here, for it is rapidly diffused along the origin of the last four fingers. At this period it is difficult to make a differential diagnosis, for the same thing occurs in cases of synovial abscesses which rapidly invade the connective tissue, and at a period somewhat advanced of the two varieties of inflammation the suppurative focus occupies the same limits. In synovitis, however, the passage of the pus above the wrist is almost inevitable and shows itself from the very beginning.

I must here insist on the manner of searching for the fluctuation. You must bear in mind the duration of the malady. As a general rule it is rare for the pus to occupy a circumscribed spot before the 16th or 18th day; nevertheless, in synovitis where the cavity is already formed, the abscess may be formed about the 3d or 4th day. Remember, there is no region where the oedema resembles a fluctuation so much as in the hand, particularly in the space that separates the index finger from the thumb, for at this place the skin is loose and is easily raised by any infiltration. When it is necessary to find out the existence of pus above the wrist, an exploration must be practised in a certain manner, as the thumb in such cases plays an important role. You place one of your own thumbs transversely above the wrist, and the other lengthwise on the palm of the hand. Let me remind you that pressure must be exercised in such a manner that a pushing sensation is felt from within towards the surface. But in the present case, this transmitted sensation is not easily produced because the pus can with difficulty pass through the narrow canal that lies between the two suppurating foci.

In the case of our patient, this manœuvring does not aid us in establishing the existence of any focus in the palm of the hand, but only a collection in the forearm. On

placing my two thumbs transversely above the wrist, at a distance of three fingers' breadth from each other, I feel a deep fluctuation. Add to this that there exists a superficial redness and an oedema on which the thumb leaves an impression. Besides, there is a sharp pain produced, and a feverish condition (39° C.,) is likewise present. Sometimes, at a period when the collection of pus is complete, there is a sufficiently marked stoppage of the pain and other general symptoms. This phenomenon cannot be considered as indicating a resolution of the phlegmon. For a different reason it is but rarely observed in the hand, because the palmar aponeurosis by its resistance maintains a tension of the tissues.

I have now arrived at the consideration of the treatment of the different varieties of phlegmons of the hand. The indications for interference in such cases may be divided into three periods. At the outset, or first period, about the tenth to the thirteenth day, if, fortunately, you are immediately called, begin by practicing an incision and disinfecting the part that has been the starting point of the infection. Antiseptic baths for the hand and forearm produce the happiest results. I am in the habit of using a solution of carbolic acid, not stronger than 1 to 400 because I have found that a concentrated solution is apt to produce erythema and sometimes a vesicular eruption. There is another treatment which at the present time is but little followed, but which, nevertheless, should not be entirely laid aside. I have reference to local bleeding. In certain cases this may bring about a resolution of the inflammation, and when you have to deal with a phlegmon that is not accompanied with serious symptoms, and which does not require an immediate interference before the 10th to the 13th day, you will find this method of local bleeding of great utility, especially when aided by the application of leeches over the wrist. As to dressings, cataplasms must be prescribed in order to keep the wound or wounds well covered. You may with propriety use muslin compresses dipped in a solution of corrosive sublimate, of the strength of 1 to 2000, or of boric acid of the strength of 30 to 1000, to which a little laudanum may be added. You must be careful to see that the dressings are sufficiently large to cover well the inflamed parts, placing over those dressings sticking-plaster or rubber so as to keep them moistened till evening or until the following morning, when you must renew them. During the second period, or that of sup-

puration, you must abandon all local bleeding. You will still use antiseptic bathing as this will continue to produce excellent results, but the time has now arrived when the bistoury must act. When and in what manner exactly is the instrument to be employed? This is more a question of topographical anatomy, and I must refer you to a special treatise on the subject.

The principal dangerous obstacle to be met with is the superficial palmar arch which you will remember is situated a little above the middle fold of the hand. Sometimes it may be of an abnormally large size. Do not, therefore, make an incision on the level of this fold. Incise either under this fold in the inferior part of the hand, or above a line which is prolonged from the hand along the internal border of the thumb. Always incise in a vertical way, because the inferior portion of the hand lies parallel to the collateral arteries and nerves of the fingers, and if you should happen to be in the superior portion of the hand you must be careful not to injure the median nerve. Taking all this into consideration, after you have divided the palmar aponeurosis, replace the bistoury by a convenient drainage tube. I will point out to you particularly that on the dorsal surface of the hand, on the first interosseous space, the trunk of the collateral arteries of the index finger and thumb, and which arises on the level where the radial artery perforates that space, is sometimes very long and often very bulky and short—circumstances which increase the danger of cutting it. If such accident occurs you must secure the two ends of the vessel severed.

When you are called to interfere in the third period, you are, unfortunately, obliged to deal sometimes with a hand that has been transformed into a sponge impregnated with pus: the sheaths are everted or open; the carpal articulations are filled with matter and produce, on moving, a cracking noise; and all other functions are abolished. In such cases amputation is indicated; but this is a necessity which ought not to be decided upon too hastily. In all instances, as in those in which early interference is resorted to in order to limit the inflammation, an adequate treatment should be adopted with a view to avoid tendinous and articular stiffness, which, if such cases are abandoned to themselves, may be the cause of permanent infirmities. Therefore, you must prescribe aromatic bathings and massage. You should apply forcible movement to all articulations. Sometimes you will have to work against the

coming on of these sequelæ for a period varying from two to six months.

COMMUNICATIONS.

CITY STREETS AND THEIR RELATION TO PUBLIC HEALTH.

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The relationship which a city's streets and passage ways have to the health of its inhabitants has received some consideration in the past from sanitarians and students of preventive medicine, but not, by any means, all that it deserves. Though it may not be a reason for this neglect, it is a grave fault that in most large cities the interests of the contractor are more looked after and cared for by those in authority than is the welfare of the tax-payers and citizens; and that it is almost impossible to have what promise to be beneficial improvements fairly tried when these tend in any way, as they often do, to decrease the financial profit to those actively interested in "the job."

A change for the better, however, is beginning to be noticed in some, especially in our western cities; and perhaps it is not too much to hope that the time is coming when our municipal authorities may think first of those who have raised them to power, and lastly, if needs must be, of the pockets of their intimates and followers. I say nothing of the greater hope that all this class of "city fathers" may some day give place to men who will have at all times the best interests of their city and people at heart, for that requires almost an excess of faith and patience.

The field and work which the avenues of a city, from the grandest to the meanest, offer to the sanitarian are broader than one would at first imagine them to be; and it is only to touch upon a few of the points that may be considered that I venture to offer the following notes:

It goes without saying that wherever the business life of a city is most active, in that vicinity will the value of land be high, and there will then be a tendency to make the streets and alley-ways as narrow as possible and the buildings on either side of them as

high as the law or the purses of the owners will allow. Another locality where the same narrow passage-ways and high buildings prevail will be the tenement districts, even though somewhat distant from the "busy marts of trade", for here the greedy and unrestrained landlord will try to extract as high a rent from as little space as he may. It is only as we go further away from the heart of a city and among those of a better condition than the very poor that the streets become wider and the air spaces greater about individual buildings and dwellings; but in many places it is only among those who are really well-to-do that the streets have the width they should have and that there is fair opportunity given for ventilation and the access of sunlight, two of our most powerful agents in the prevention of disease.

On *a priori* grounds, then, we should consider the conjunction of high buildings and narrow streets to be effective agents for evil against the health and vitality of the dwellers therein.

The younger Parkes says: "The health of a town largely depends on the width of its streets, the general height of the buildings, and the amount of yard space at the rear of each which separates it from its opposite neighbor. Contrast the health and vitality of the occupants of houses in wide open streets, with those who live in narrow courts closed at one or both ends—the courts themselves being often surrounded by higher buildings, or built back-to-back, or with the smallest possible intervening space. In such places the air is almost always necessarily stagnant, as the passage of the wind is obstructed by the surrounding buildings. The sun's light for many months in the year cannot penetrate, with the result that the ground is never thoroughly dried, and the air in contact with it remains continually damp. Impure gases and exhalations, evolved from the inhabited dwellings, are not at once swept away by the wind, and consequently accumulate in the air of the court and its surroundings. Suspended organic matters tend to subside in the still air, which being thus both damp and impure, produces that state of low vitality and predisposition to disease that characterizes the inhabitants of such places.

Zymotic diseases, when once introduced, spread rapidly through the vitiated air; the enfeebled constitutions of the inhabitants presenting but slight resistance to their onset. Absence of sunlight appears to have a specially injurious effect on child life, which like plants, becomes blanched and weakly

when reared in semi-darkness. When it is added that in many of these courts and alleys the houses have no thorough ventilation, the windows being only in the front of the house, it is not to be wondered that the general death rate is sometimes double or even treble that of the healthy parts of the town, and that the mortality amongst infants and young children is something appalling."

Looking to the facts, we find that comparatively few have investigated this matter, but that the results already obtained are, to say the least, striking.

In England Ransome, Barry and Smith have all investigated the relation of street width and town ventilation to the mortality from phthisis, and in this city (Philadelphia) Drs. Flick and Howard B. Anders have made valuable contributions to our knowledge of the subject. Perhaps I shall economize space and time if I review briefly the article of Dr. Anders on "Street Width": Its causal relation to the mortality of phthisis,¹ and make use of some of the quotations from the other writers of which he has availed himself. He says: "In order to demonstrate whether any relation, positive or negative, existed between street width and the mortality rate of phthisis in Philadelphia, I began a topographical study of such cases in the Fifteenth Ward which died during fifteen years, from 1874 to 1888 inclusive. For the basis of the research this ward was selected for several reasons, as follows: 1. Because of the large number of deaths reported; 2. On account of the streets, typically very wide, narrow and medium in width, which it contains; 3. Its elevation and its proximity to Fairmount Park, circumstances which would convey double force to a positive relation between a high mortality rate from phthisis and narrow streets in that vicinity; 4. A great number of streets running diagonally to the main ones; 5. A proportionably larger population in the wider streets; 6. The presence of several large penal institutions." The area of the ward is about one square mile. The Board of Health records for the time in question were carefully examined, and doubtful cases traced or eliminated till there were left 1665 authentic ones, or 94 per cent, of all recorded."

A large map of the ward was then made, and the aggregate number of deaths for each block transferred to this map, on close study of which, thus completed, Dr. Anders ob-

¹Practical Hygiene, page 228, Blakiston, 1890.

²Vide University Medical Magazine, October 1890.

serves: "That the number of deaths from phthisis on a very wide street is proportionately small compared with almost any one narrow street." Taking the streets running east and west which are forty feet or more in width, and excepting two of them which have but little back ventilation to their dwellings, owing to other buildings close in the rear, the average death rate per square for the time given was 3.7; while that for the streets under forty feet wide with the same direction was 6.1 per square. Doubtless the same ratio holds good for those streets running north and south or diagonally, for there is no reason why it should not.

Again, "A large mortality in the narrow streets near the Park (Fairmount) is particularly significant, for it points out that though a better atmosphere be near at hand, if not freely accessible for ventilating purposes it avails nothing."

"The observations show that there is plainly and generally a high mortality rate from consumption associated with street narrowness in not a small part of Philadelphia. From the assumption then of the well-known fact that the major portion of the city's population lives in narrow streets, (although this is not true of the Fifteenth Ward), and from the fact, as before proven, that the death rate from phthisis is relatively high among these residents, the conclusion is logically justifiable that the relation between a high mortality and narrow streets is a positive and vital one."

If this be true of Philadelphia, that boasts of having more individual *homes* for her population than any large city in the world, what may we expect of those places where the great mass of the poorer classes dwell in lofty over-crowded tenements whose entrances and outlooks are only upon courts, alleys or streets so narrow that the sun can scarcely light up the depths for more than an hour or two a day, and where a breath of fresh air is a thing almost unheard of and unknown?

Ransome finds the same relationship between a high phthisis mortality and narrow streets in English cities, and Barry and Smith have shown that this same mortality in "back-to-back" houses is high, something that Anders also noted in his work.

If, as Dr. Flick says, "the same conditions which intensify the contagion of the diseases long acknowledged to be contagious, increase the operation of that of phthisis," is not the converse likely to be true, and where we find the mortality from phthisis

high may we not also expect a high mortality and morbidity from all the contagious maladies common to the locality?

I know that it can be reasonably and strongly urged that those who dwell in the narrow streets and by-ways of which we have been speaking are especially subject to those other conditions which lower vitality and predispose to high morbidity and mortality from any cause; viz., poor and insufficient food and clothing, exposure to inclement weather, unhealthy occupation, etc.; but still, those of us who believe at all in ventilation for our dwelling rooms and houses, must admit also its necessity for our streets. "The free course of pure air through *wide, unobstructed streets* is as clearly necessary for the proper ventilation of cities as it is for the ventilation of habitable rooms. Indeed, without the former the latter would be certainly incomplete and defective. Streets are the ventilating flues of cities and they should be ample in width."

Knowing the evil, what remedies are to be proposed? It is evident that these must vary with the conditions present in each case. However, they may be formulated somewhat as follows: In those business portions of a city where property is high in value, where the buildings are for commercial purposes, and where the street width is necessarily limited, the proper authorities should see that in all buildings ample provision is made for abundant ventilation, the air being brought from a reasonably clean place, for proper room-space for the occupants, and for the prompt removal of all collections of waste matters deleterious to health; and these requirements should be maintained by frequent and strict inspections. Many occupations now considered unhealthy would not be especially so, were the ordinary laws of Hygiene fairly observed by those having in charge the care and oversight of the place in which the work is done.

The same rules should be applied in those localities where tenements abound and where the streets are already narrow and cannot be widened; but no new buildings for tenement purposes should be permitted on these streets, or, for that matter, on any other, unless they are planned in accordance with the latest and most approved sanitary laws.

All new streets are to be laid out as wide as possible, even at the sacrifice of personal

* Anders: loc. cit.

or private interests; and, above all, the people should be instructed as to the value of individual homes with as much air-space about them as possible, and to be encouraged in obtaining such homes as permanent residences; this not only for sanitary reasons, but also for the moral effect upon them as citizens. Proper legislation and municipal care for the interests of the laboring man can also do much toward making him feel secure in his property rights and giving him an interest in the city's health.

In this connection it may be well to quote from the model by-laws of the Local Government Board of London; "The width of every new street intended for use as a carriage road must not be less than 30 feet; if saving narrow, filthy ways and alleys with foul not to be used as a carriage road it must be at least 24 feet wide, and open at one end. Twenty-four feet is the least width allowed before the frontage of any new building; and the aggregate amount of yard space at the back of such a building, and belonging to it, must not be less than 150 square feet, and whilst extending the full width of the building it must not in any case be less than ten feet wide, and must be wider when the height of the building exceeds fifteen feet, the yard space at the back of the house being increased with the height of the house up to thirty-five feet."

Street cleanliness. This will evidently depend on two factors; the character of the street pavement, and the thoroughness and frequency with which the contracts for street cleaning are carried out. It goes without saying that a street pavement should be as smooth and durable in its character as is possible to secure with due regard for true economy. Experience has gradually narrowed the choice of the materials of which a much used city pavement may be made to the granite or Belgian blocks, to asphaltum, and of late years, to vitrified bricks. Of these I suppose the Belgian block would naturally be selected by most persons as the most serviceable for use in the business portion of a city and where the traffic and traction were especially heavy, relegating the other materials to use only in that part given up to residences or where traffic is light. However, it is questionable whether the asphaltum and brick, will not be found to be equally serviceable for all localities, if they be properly laid, inasmuch as the traction over them is so much easier than over the rougher granite and the wear

and tear consequently so much diminished. Certain it is that the vitrified brick, after being exposed under fair conditions to the severest tests, has agreeably surprised its warmest advocates.

Should it happen that one or the other of the two smoother ones may in time be substituted for the rougher one of the three, a gain in sanitation will be made in more ways than one. It will be much easier to keep the streets in that condition of cleanliness in which they should be, but which is so rarely to be discovered. Then more of the population, especially of the sedentary classes, will be encouraged and induced to make use of the bicycle, the poor man's horse, and to gain benefit from the physical exercise that otherwise they would lose. The rumble and noise of street traffic that goes to make up the roar of a great city would be considerably lessened, and this, unnoticed by the healthy, would be a true relief to those sick whose nerves are hypersensitive and acute to disturbances usually thought of little moment. Other benefits accruing from smooth pavements might also be adduced, but coming back to the question of cleaning them, it will at once be seen that the cost of doing this must be greatly lessened, and that there can be no excuse for any neglect of duty by those to whom this very important duty is entrusted.

Dr. Feltz² has shown that the virulence of tubercular bacilli mixed with dry road dust and exposed to the variations in the atmosphere lasts months, especially if also exposed to the sun; and who can doubt that the moist filth remaining for many days and weeks on the surface of streets is not also a most excellent breeding ground for the germs of many other contagious diseases? And then, when the sun dries up this filth and the wind scatters and sifts it through all our dwellings, who can tell what an assortment of maladies he may have latent within his very threshold?

The experience of foreign cities, and even of some within our own borders, notably Washington, shows that there is no necessity for dirty streets, and our citizens should no more tolerate them, through neglect of their paid servants, than they would a like condition of their dwellings or business houses. It is too often the custom for the contractors for street cleaning to practically sub-let the whole job to Jupiter Pluvius, and the latter, not receiving any of the spoils, is apt to take things easy and to do

¹Louis Parkes, *Practical Hygiene*; loc. cit.

²Vide *Therapeutic Gazette*, June, 1891, p. 410.

his work only at long intervals. Fortunately, when he does act, the work is generally well done. A grave part of the neglect is that those parts of a city which need the streets cleaned worst are the last to receive it, if at all, and that that part of the population least able to resist the depressing causes arising from street filth is the one most exposed and the part that suffers most.

The sub-soil of streets. It is proper that the condition of the soil underlying city streets and of the air which it contains should be considered in this connection. When we remember that there is almost always considerable leakage from both illuminating gas mains and sewers in their course, we realize that both the soil and soil-air of even a comparatively new street may soon become dangerously filthy. If to this leakage be added the percolations from above for many years through pavements imperfect or in need of repair, and especially in such localities as those where masses of filth lie moist and decomposing for days and weeks, (which conditions, I need not say, exist too often in tenement districts), the danger to the health of the people becomes more real and powerful. One need but pass along such a street when repairs are being made to some of its mains or drains and the soil is upturned for the time to have made patent to his senses how foul such soil can be; and city doctors know that such upturnings, if extensive, are often followed by serious outbreaks of sickness. But they rarely stop to think what a continually depressing factor this foulness is, even when street surface is unmolested and in good repair.

Owing to the extremes of atmospheric temperature there doubtless is a continual movement of the soil air underneath the street. If, as in the crowded or closely built portions of the city, the sidewalks reach from house to curb, with no intervening grass plot, there can be practically no escape of the soil air upwards, nor ingress of fresh air from above, and whatever ventilation the sub-soil has must be through the basement walls of the buildings and dwellings on either side. This goes on throughout the year, but especially through the colder months, for when the fires are lighted and the air of the houses is thus made lighter than that without, the sub-soil air with its foul gases finds ready access through every opening in the cellar wall or floor. Even, as Prof. Dixon has pointed out, when the cellar walls and floors are well cemented to exclude the soil air, it will often

be found that the space beneath the hot air furnace has been left unprotected and that there will be found a strong up-current from the underlying soil. Will not such a condition of affairs explain the existence of many cases of insidious disease, marked by the symptoms characteristically produced by "sewer gas," and which lasts during the winter months and disappears as the fires are allowed to die out in the spring? It seems to me that much may be done to improve this condition of the sub-soil and to remove the danger that is by no means imaginary. On the part of the city it should be a duty to lay all gas mains and sewers in as careful a manner as possible, that there may be a minimum of leakage from them, and where practicable, to *drain* the sub-soil by conduits *separate* and *distinct* from those carrying the house sewage. This is one of the excellent features of the Waring, or "separate," system of sewerage, and is worthy of consideration wherever new sewers are to be introduced.

On the surface there should be, if at all possible, somewhere between the curb and the house line, a strip of grass or uncovered earth, to allow of a free ventilation of the sub-soil and thus, in a measure, dilute and purify the soil air. Enclosed spaces of grass or flowers at the intersections of convergent streets would also have a sanitary as well as an æsthetic value. On the part of the house-owner it is necessary that he should see that his cellar walls are as impervious to the entrance of soil air as he can make them, not forgetting the space underneath the furnace; and he should also take care to bring in from some *clean* place above the level of the soil an abundant supply of pure air to thoroughly ventilate the whole house. He should also keep the surface of the earth about his house at all times in as clean a condition as possible.

As to the surface of the street pavement, it should, of course, be kept smooth, in good repair and *clean*. Neither the Belgian blocks nor asphaltum will allow much, if any, ventilation of the sub-soil. I am inclined to think that the new brick pavement will, for while the bricks are called "vitrified," they are porous and allow the passage of both water and air through them. This, then, is an advantage over either of the former materials, and should lead them to be used in narrow streets, where there can be no side ventilation. Though porous, there need be no fear of filth percolating through them, if the streets be kept decently clean as they should be; as intimated, their

very porosity helps to both dry and ventilate the sub-soil air and lessen the danger from the foul soil air.

The relationship between the curb and the house—or building—line must vary in different parts of the city somewhat as does the width of the streets. In the business and closely built portions of a city the necessity of room for traffic requires the roadway to be as wide as possible. But in localities given up to the better class of residences and where the streets are really of a good width, there is sometimes a tendency to make the improvement too broad in comparison to the space allotted to the sidewalk. This is of little importance if the buildings generally are back of the legal building line; but where they are flush with the latter, trees planted between them and the curb will interfere with ventilation and access of sunlight to the house-front, and there will also be lessened space for the soil ventilation between house and curb, especially if the sidewalks be of the regulation width. It will rarely be advisable that the roadway be over forty feet broad and in most cases where there are no street car lines thirty-five feet will be even a better width. This will allow the shade trees to be planted far enough away from the house-front to have good ventilation and light, and at the same time the general beauty of the street is enhanced.

There are certain other conditions that may arise which might influence for evil the health of the dwellers on any given street, but I believe that a study of the foregoing ones will convince the reader that they are general, and that their influence is certainly positive.

It cannot be gainsaid that with wide, clean streets, well-drained and well-ventilated, both above and below the surface, supplanting narrow, filthy ways and alleys with foul and reeking sub-soil, the general health of a great part of the population of any large city would be vastly improved and the city's morbidity and mortality greatly lessened. When we consider that bringing down the death-rate only one in a thousand means the saving of a thousand lives a year in a city of a million, we realize how great the responsibility is of those to whom are intrusted the sanitary duties of a great municipality. Even looking at the question from a financial standpoint alone, the gain in the earning capacity of the people would more than cover any increase in expenditure necessary to clean and well-paved highways, drained and ventilated as they should be. Is it not worth while for every tax-payer and citizen

to demand that he shall have these reasonable and rightful benefits from the city in which he dwells?

CLINICAL OBSERVATIONS OF ACETANILIDE.*

BY DR. J. R. CARE,
CENTRE POINT, PA.

Acetanilide, unlike most of the more recent preparations of the chemist which scintillate with great brilliancy for a short time in the medical press, and are then relegated to oblivion, has now a permanent place, and deservedly in the list of efficient, and reliable antipyretics, although now, almost unnoticed by the laboratory experimentalist.

It is a lamentable fact that there are men, who after a few hurried and superficial trials of a drug during which they receive apparently brilliant results that very often are but the results of nature, hasten to bring them before the profession as fixed facts.

This being well known by the mass of the profession, is it any wonder they become skeptical? Having used acetanilide in a few cases with very satisfactory results, I determined to use it in all cases occurring in my practice with hyperpyrexia, and thus ascertain if possible its merits as well as its demerits.

I used it in a series of twenty-five cases of typhoid fever, in follicular tonsillitis and simple inflammatory fever, and the manifestations were so constant as to warrant the appended assertions.

Like the physicians of the Orient, I first took the drug myself and then administered it to my patients.

It has a slightly pungent taste, causes a sensation of warmth in the stomach by which it is well borne, first diminishes the number and force of the heart beats, followed by rapid, weak and thready pulse, if the dose has been large enough to cause a decided reduction of temperature. It produces in from fifteen minutes to an hour a profuse perspiration, with reduction of temperature of a febrile patient. If the dose has been a decided one, the extremities become cold, lips blue, yawning, somewhat quickened feeble respiration, and a sense of a profound debility in some cases amounting almost to collapse.

It attains its maximum effects in from three to four hours, gradually passing off

*Read before the Montgomery County Medical Society, September 16th, 1891.

thereafter, the temperature ascending to its former height, or nearly so.

The above is observed when the dose is large enough to reduce the temperature from three to four degrees, when the dose is smaller, there is noted the diaphoresis and reduction in the pulse beat and tension without the profound debility mentioned above.

These manifestations were seen in all cases except one in which the drug was used.

The exception was a case of scarlet fever in a boy aged 15 years, who on the sixth day, developed pneumonia with a rapid rise of temperature, and a dry hot skin that failed to yield to the ordinary medicaments.

I gave him three grains of acetanilide every four hours, with no effect on the temperature, or skin. I doubled the dose with no effect. It did produce however, profuse diuresis; the case actually passing seven measured quarts in twenty-four hours, the temperature remaining at 105° until convulsions ended the scene.

In order the more fully to illustrate the foregoing observations I will cite the history of a case in point:

Amy D—, aged 14 years, was taken with a severe chill September 3rd, 1890. We were called three days thereafter and found her in bed with a dry hot skin, tongue moist, and covered with a yellowish-brown coat, temperature 105°, pulse 120, respiration 30, stomach irritable.

I prescribed cinchonidia in capsules, and a febrile mixture.

On the following day her condition was practically the same, the stomach rejecting everything. I then prescribed bismuth and two grains of acetanilide every four hours. The following morning the skin was moist, temperature, 104°; pulse, 110; and a moderate diarrhoea. I then added five grain suppositories of quinine to the other prescriptions and found her, in the evening, with a temperature of 105°.

I had her sponged and on the following day found her the same as the day previous. I then determined to push the acetanilide, and ordered four grains at eight o'clock A. M., in connection with the suppositories, and left directions for the parents to give two grains more in four hours unless she perspired freely. I was hastily summoned at noon to see her, as they thought she was dying. I found her collapsed, extremities cold and bathed in a profuse perspiration; pulse, very feeble, beating 144 per minute; temperature, 99°; respiration, labored, and sighing; eyes turned up; lips blue.

She was very restless. The parents said she had been unconscious and that she seemed to stop breathing. Prescribed hot applications and brandy and found her resting easy in the evening. But the next morning her temperature was up to 103° and as she could retain nothing else on her stomach I ordered two grains of acetanilide, which reduced the temperature and caused profuse diaphoresis in about an hour. I saw her six hours after and found her with a temperature of 101°; mind somewhat confused. The temperature would rise every day and require one or two two-grain tablets to control it, in connection with the suppositories. She complained quite frequently of feeling cold in from two to three hours after the drug was administered. The case continued thus until the 21st day, when the temperature fell to normal.

It ran up to 103 degrees upon several occasions after that. On the 24th day she passed a small quantity of blood—but no urine. There was complete suppression for 24 hours, which was only partially overcome. Clots of blood passed per rectum; occasionally she vomited a black grumous material.

There appeared ecchymotic spots wherever she scratched herself. There was abundant sordes on her lips and teeth.

Her temperature now remained normal and the tongue was clean. Kidneys acted fairly, when on the 28th day, during the absence of the nurse, she got out of bed and walked across the room to the commode, when she sank exhausted. Her mother heard her and ran to her rescue, laid her on the bed, when she gasped and was dead.

It follows that acetanilide is a very potent drug, potent for evil as well as for good. If I have rightly interpreted the fore-going, acetanilide is a powerful cardiac depressant, apparently acting on the heart proper, also on the inhibitory apparatus.

It is a nerve depressant and a fairly certain diaphoretic, as it acted on the sudoriferous glands in all cases but one in which it was used. It seems to interfere with the oxygen-carrying functions of the blood, and consequently diminishes oxidation, which may be a factor in the reduction of the temperature. In my experience it caused profound depression of the vital parts in all cases where the dose was large enough to cause a decided fall of temperature, and the debility remained, consequently I think it is contra-indicated in all cases with marked adynamia. In sthenic cases its results were most gratifying.

OBSTETRIC ANÆSTHESIA.

BY DR. J. B. CARRELL,
HATBORO, PA.

The editorial on "The Choice of an Anæsthetic in Obstetrical Practice" in the October 10th REPORTER, particularly attracted my attention and prompted me to write a few thoughts on this important subject.

Having employed chloroform extensively in my obstetrical practice I can say that my experience supports the views given in the editorial, that "chloroform is justly considered the agent *par excellence* in producing obstetrical anesthesia.

It is my custom to administer chloroform in obstetrical cases, to relieve pain, to relieve extreme nervous irritation, and to relieve rigidity of the os and perineum. He who can calmly stand by a woman and see her suffering the excruciating pains of childbirth, and not assuage those pains, has a heart destitute of that beautiful sympathy that every physician should possess. I can not agree with the sentimentalist who argues that woman should suffer because nature has said so. That her mental faculties should not be clouded so that she can not enjoy the "caresses of her husband, the condolence of her relatives and deaden the imagination, already teeming with the joys of maternity?" That she should "not be deprived of the ineffable happiness of hearing the first cry of the new born child?" This joy I attribute more to her thankfulness in having passed safely through the perils of childbirth than the, to me, cold and cruel sentiments.

In the face of accumulated evidence which conclusively shows that the dangers of not giving this agent, in painful cases of labor, are greater than the giving, I can not see why it should not be given. It has been proven by actual experience that no ill effects result to the mother from its use. Writers are nearly unanimous on this point, and many hold that the recovery is more rapid and surer after its use. Undoubtedly there are many physicians who can trace the origin of broken nervous systems to the long and severe pains of labor. It is truly wonderful how much pain and suffering a woman can, under these conditions, endure without giving way. However, the limit can be, and is occasionally reached. Why not prevent this limit being reached and

save the health of the woman? The effect upon the fetus is *nil*. I have yet to see a child that I considered injured by giving chloroform to the mother, and such I believe to be the opinion of careful observers.

In cases where the pain is not unusually severe I do not use anæsthesia, but when they are severe, be they in whatever stage, I do not hesitate to employ it. Extreme pain produces, in most cases, severe nervous irritation, and this may lead to convulsions. When I find my patient becoming very nervous I relieve it by giving a little chloroform, thereby preventing convulsive attacks, and save the life of the child; for it is well known that convulsions in the mother mostly produce the death of the fetus. As soon as the nervous irritation is relieved the chloroform is withdrawn.

Rigidity and spasm of the cervix uteri, and rigidity of the perineum can be, in many cases, relieved or modified by pushing the chloroform from obstetrical to surgical anæsthesia. There would be fewer ruptured perineæ if the violence of the expulsive pains were modified by giving chloroform and keeping the pains in control. Cazeaux and Tarnier, in their great work, say as follows on the prevention of ruptured perineæ: "The administration of ether or chloroform has received the indorsement of the best authorities. They may be given to produce relaxation and dilatation of the rigid perineum, and to increase and restore the natural glairy secretion when the parts are dry, as pointed out by Goodell. They also render the patient insensible to the acute pain which increases the contraction of the perineal muscles."

Should the pains become ineffective, the patient and uterus worn out, then a little chloroform judiciously administered will revive both the patient and uterus, and the use of the forceps will not be required to terminate the delivery. He who has used this agent in obstetrical cases has often been told by the patient that but for it she could not have had her child unaided. How often have I seen these poor worn-out and disheartened women have their drooping spirits revived by a few inhalations of chloroform, and how often have they thanked me for the relief it has given them.

It is not advisable except in urgent cases to push the agent to the extent of surgical anæsthesia, but to use only so much as will secure its analgesic effect. I would not advise its use in all cases. Use it when it is needed. Do not be afraid of it, but always keep in mind it is an agent for good or for

harm. In all obstetrical manœuvres producing severe pain and requiring quietness of the patient, and where it is necessary to produce surgical anæsthesia I would advise the use of ether. There is not the same danger in the use of chloroform in obstetrical practice as in surgical practice. Its toxic effects I have not seen, neither have I read of its having occurred when used to the extent of obstetrical anæsthesia. I have used it great many times and have only good words to say for it. It has given my patients relief from severe suffering, it has elicited thanks from many a sufferer, it has made warm friends for me. Then why not use it?

My method of using it is to put a few drops on a handkerchief twice doubled, place it over the nose and mouth and direct the patient to take a few deep inspirations and encourage her to believe in its power to relieve her suffering. This will attract her attention and when it begins to show its power to assuage pain her confidence is won. As soon as the violence of the pain has passed off the chloroform should be withdrawn. It will not be necessary to give it for every pain, but as often as may seem required. By this method the patient never loses consciousness entirely, but is relieved of her excruciating pain, and the labor passes off with satisfaction to the patient, attendants and doctor. Much more could be written on this important subject.

SUPRAPUBIC CYSTOTOMY.*

BY R. W. STEWART, M. D.,
OF PITTSBURGH, PA.

The following cases operated on by myself during the present year, and given in the order of their occurrence, will serve to show some of the conditions for which this operation is indicated and also serve as a basis for further remarks on the operation.

CASE I.—This patient was under the care of Dr. Grube, who has kindly furnished me with the following notes of the case: February 10th, 1891. J. O., aged 32, furnace-man. Patient says that about six months ago he first noticed difficulty in urination, with pain in bladder and penis. This gradually passed into chronic cystitis, accompanied by pain in legs and partial paraplegia.

* Read before the Allegheny County Medical Society, August 18th, 1891.

He was treated for cystitis at Mercy Hospital. The bladder is extremely irritable, and holds scarcely an ounce, and as the slightest distension causes intense pain, it is impossible for him to sleep longer than half an hour at a time; consequently he is greatly reduced in strength. The stomach is irritable, and digestion impaired; patient living almost entirely on milk. The prostate gland is slightly enlarged, and is nodular, leading to the suspicion that it is tubercular. Patient has a brother who has pulmonary tuberculosis, and he himself has had a cough for several years, though his lungs are not perceptibly tubercular. Urine contains large quantities of muco-pus. Microscope shows pus cells, caseous flakes and debris. As patient was under Dr. Stewart's care at Mercy Hospital, I have asked him to see patient, and we have decided upon suprapubic cystotomy.

February 14. Dr. Stewart operated as above, assisted by Drs. Ward, Patterson, Emmerling and myself. As the bladder would not bear distension by fluid, the fundus was pushed up into wound by point of sound. A papillomatous growth was removed from near the entrance of left ureter—about a teaspoonful of scrapings in all. Wound closed and bladder drained by single large drainage tube; directed daily washing out of bladder with boro-salicylic acid solution.

Feb. 20. Patient has been given great relief from irritability of bladder, and is grateful accordingly. Urine still mucopurulent; general condition, bad.

March 10th. Wound has healed nicely around drainage tube, and patient manages drainage and washing out of his bladder himself.

April 1st. No improvement in character of urine, and patient losing ground steadily. There is occasional discharges of caseous-looking pus from the urethra, which evidently comes from the prostate. Tubercles have made their appearance in the cicatricial tissue about the drainage tube.

The further progress of this case was a gradual decline, until he died about the middle of May.

CASE II.—Daniel R., aged 54. About eighty years ago he had several attacks apparently of renal colic, occurring at intervals of two months. After this there was a period of quiescence until about eighteen months ago, when he complained of frequency in passing water, the termination of the act being associated with pain, which was referred to the end of the penis. Exertion of

any sort aggravated the trouble, while on the contrary, rest in the recumbent position diminished it. So frequent had become the calls to urinate, and so difficult to restrain the desire, that it was necessary to wear a urinal. For about a year the patient was unable to pursue his vocation of machinist. He was referred to me for treatment by Dr. Ward.

Owing to the extreme sensitiveness of the patient and the irritability of the bladder, an examination without the aid of an anæsthetic was a matter of considerable difficulty, and required the utmost tact and delicacy. A diagnosis of vesical calculus was made, and the patient sent to Mercy Hospital for operation. Accordingly, on March 15th the patient being anæsthetized, a rectal bag was inserted and distended with eight ounces of water. The suprapubic operation was then performed, and three calculi lying side by side were removed. A drainage tube was inserted in the bladder and the wound partially closed with three silver sutures. A loose gauze dressing was applied over all.

The condition of the patient after operation was satisfactory, and was devoid of constitutional disturbance. He left the Hospital on the seventeenth day following the operation. A fistulous opening still communicated with the bladder, which was somewhat slow in healing, but eventually it closed, and at this date patient is in good health, has full control of his urine and is free from pain.

CASE III.—Louis M., age 34, a butcher by occupation. On the evening of May 28th, he stepped on a coal-hole, the lid of which turned and he fell, the edge of the lid striking him on the perineum. He was able to walk a short distance, and then took a carriage home. On the following morning he was suffering from retention of urine, and Dr. Speer was called to see him. With a soft catheter he withdrew a quantity of bloody urine. On the evening of the same day I was called in consultation, the doctor being unable to withdraw his urine. At that time the bladder was distended, perineum tender, swollen, and much discolored, the discoloration extending to the scrotum. A diagnosis of rupture of the urethra at the triangular ligament was made, and with the assistance of Drs. Speer, Christler, and McKibben, the patient being anæsthetized, I opened the perineum freely in several places, through which a small quantity of bloody urine escaped. A complete rupture of the urethra was discovered. Owing to the extravasation, the tissues were so altered in appearance that it was impossible to distin-

guish the vesical end of the torn urethra, and after a patient attempt I abandoned the search for it, and ordered his removal to Mercy Hospital. He did not enter the Hospital on the following day, and as he was still suffering from retention it was necessary to aspirate his bladder in the morning and evening. On the following morning he entered the Hospital, and I operated on him again. At this time the patient's temperature was 103° F., and his general condition was bad. Being again unable to find the vesical end of the urethra, I opened the distended bladder above the pubes, the incision in the bladder being just sufficient to admit a steel sound, with which I performed retrograde catheterism. The sound, after passing from within outwards through the prostatic urethra, was made to project through the perineal opening. While in this situation a stout rubber tube was fitted on the projecting conical extremity of the sound, which together with the tube was withdrawn into the bladder, and the sound disengaged from the tube. The sound was then passed from before backwards through the pendulous urethra, the extremity again presenting through the perineal opening. On this was fitted the end of the rubber tube which projected from the perineal opening, and the sound carrying with it the tube was withdrawn. By this manœuvre a tube was inserted in the whole length of the urethra, one end being in the bladder and the other projecting from the external meatus, the central portion bridging over the torn ends of the urethra, which were separated by an interval of about three-quarters of an inch. Displacement of the tube was prevented by pinning it to the prepuce. The patient's condition improved at once; his temperature was normal on the third day. The urine drained through the tube. A slight leakage escaped through the suprapubic opening. On the eighth day the tube was removed, and the patient left the Hospital on the twelfth day, since which time no urine has passed by suprapubic opening. A No. 26 French sound has been passed at intervals since that date. At present the sound is passed once every two weeks to prevent the formation of a stricture at site of injury, and except for this inconvenience the patient is as well as he ever was.

CASE IV.—A. M. W., age 21. Ten years ago this patient was suddenly attacked with a desire to urinate frequently, which he attributed to holding his urine too long. This condition has persisted without intermission during the past ten years, passing water

every twenty to forty minutes, night and day, the act being associated with violent tenesmus, and, at times, excruciating pain. The constant straining has produced a marked prolapse of the rectum, which protrudes during the act to the extent of about five inches.

Three years after the onset of this attack he became subject to epileptic seizures which would occur about once a month, and in some manner seemed to be associated with an exacerbation of his vesical trouble. I may anticipate by saying that since the latter has been relieved the convulsions have ceased.

During the ten years he has suffered he has tried various forms of treatment in the hospitals, and out of them, under regulars and irregulars, besides his attempts at self-cure with the aid of patent medicines, all of which, to use his own language, did him no good, and he was waiting to die. Finally Dr. Buchanan sent him to Mercy Hospital, and he was transferred to me. The case was and still is something of a puzzle. The sound failed to shed any light on the subject. The cystoscope was also used, but nothing abnormal could be detected; external perineal urethrotomy was performed, and a digital examination of the interior of the bladder was made by Dr. Buchanan and myself, but nothing abnormal, further than a dilatation of the opening of the right ureter could be detected. Into this opening I readily inserted the beak of Thompson's searcher which passed, without obstruction, along the ureter until it must have reached the pelvis of the kidney. In this situation the searcher could be readily turned in any direction, showing that the ureter was much dilated. While the searcher was in this situation the descent of the liver in inspiration could be readily felt pressing against the extremity of the instrument. The ureter contained about an ounce of apparently healthy urine, which escaped along the hollow instrument. A drainage tube was inserted in the perineal opening, and the bladder drained by this means for ten days. During this period the patient had comparative comfort, and for the first time in ten years he was able to sleep a few hours at a time. After the tube was withdrawn on the tenth day, the perineal opening closed, and the patient relapsed into his previous miserable condition.

The results of all these examinations showed that we were no nearer the solution of the cause of this trouble. Whether the dilated ureter was the cause, or the result of the frequent urination, we are unable to

determine; one thing, however, was apparent, that drainage of the bladder relieved the symptoms, and I therefore decided to establish permanent drainage.

In this operation I was again assisted by Dr. Buchanan. A specially contrived sound, having a greater curve than the ordinary sound, and a tip on it over which a tube could be readily fitted, was used. The extremity of the instrument could be felt just above the pubes. An incision was made over it, and the instrument presented itself in the wound. A tube was inserted over the tip of the instrument, which was withdrawn, leaving the tube in the bladder, and a permanent drainage was now established. The patient, in a short time, was able to manage the tube himself, taking it out twice daily, and washing the bladder with a weak bi-chloride solution, the free extremity of the tube fitting into a urinal by day, and at night connected with a long tube which carries the urine to a vessel placed at the bedside. When last seen he had gained in flesh, could sleep without interruption, and for the first time in his life he was making arrangements to earn a living for himself.

The operation of suprapubic cystotomy has, within the past few years, attracted considerable attention, and is now looked on with more favor than at any previous period. Some have gone so far as to condemn entirely the perineal route to the bladder, and assert that the suprapubic route should be used exclusively; but that this is going too far will be evident to any one who will give the subject a little attention. For temporary drainage and for digital exploration, the perineal method of opening the bladder is undoubtedly the simplest and the safest. On the other hand, the suprapubic method is, in the majority of cases, to be preferred for the removal of calculi too large to be crushed; also for the removal of tumors, with the possible exception of prostatic growths, and for the establishment of permanent drainage. This operation has been hedged around with so many precautions and imaginary dangers that what is really a very simple operation appears to the uninitiated to be one of great magnitude.

Elaborate dissections have been made to show the relationship of the vesico-parietal peritoneal reflection to the operation, and the benefits of rectal and vesical distension has been urged. The dangers of urinary extravasation and hæmorrhage have been pointed out, and the advantages of Trendelenberg's position dilated upon. Regard-

ing the much-talked-of peritoneum: In none of the cases that I have recorded was it seen during the operation, and in only one of them was a rectal bag used. While vesical distension was resorted to in none, though present as an accidental occurrence in Case III, the advantages of both of these have, in my opinion, been more than counterbalanced by the risks incurred from over-distension in their use. A longitudinal incision was used, keeping close to the upper border of the symphysis pubis, and the bladder opened on the tip of a well-curved sound, the finger being kept at the same time in the upper border of the wound to prevent displacement downwards of the peritoneum and intestines. A pair of forceps was next insinuated alongside the sound, into the bladder, and expanded so as to tear the vesical opening to the extent desired. Hemorrhage was not troublesome in any case. No attempt was made to suture the vesical wound, nor would I recommend that it be attempted, unless the opening was very large. In three of the cases the abdominal wound was partially closed with silver sutures; but in each of these cases the wound reopened on removal of the sutures, so that in the future I will dispense with their use. I would recommend, however, that the incision, both in the abdominal wall and bladder, be limited to the smallest extent consistent with the requirements for operating within the bladder.

No constitutional disturbance was produced by the operation in any case, no extravasation of urine occurred, and the after-treatment consisted of frequent renewal of the dressings and washing out of the bladder with a mild antiseptic solution.

(For discussion see Society Reports.)

SOCIETY REPORTS.

ALLEGHENY COUNTY MEDICAL SOCIETY.

SCIENTIFIC MEETING, AUGUST 18TH, 1891.

Z. D. DAVIS, M. D., PRESIDENT IN THE CHAIR.

A paper on SUPRAPUBIC CYSTOTOMY was read by Dr. W. R. Stewart. (See page 732.)

Dr. BUCHANAN: I am very well acquainted with the history of the fourth case reported by Dr. Stewart, and I think the doctor deserves the greatest credit for the way in which he followed up the treatment. The

case was a very mysterious one, and yet remains so. There was no obstruction of the urethra. There was no active cystitis. There was no disease in the kidney, or in the pelvis of the kidney, as far as could be discovered. There was nothing to give rise to the dilatation of the ureter, the enlarged outlet of which could be felt very plainly with the finger through the perineal incision and demonstrated with the sound, except the constant contraction of the bladder. The opening of the bladder for permanent drainage above the pubis was an entirely arbitrary matter, not based on anything except the fact that during the time at which the bladder was open below, the patient was relieved from pain. For this reason I think Dr. Stewart deserves the more credit for following up that hint and doing this operation without any other indication; an operation which has certainly proved very successful. The man was in a wretched condition; the contractions of the bladder were so painful as to make him cry out; he could not stand still when passing his water, and there was very extensive protrusion of the rectum.

Dr. MACFARLANE: I have nothing to say except to compliment the doctor upon the manner of presenting his cases. There is one feature about the one case in which I cannot help but admire the manner in which he treated it. The case is the one in which he had rupture of the urethra. Now anybody who has ever attempted to do anything with rupture of the urethra, knows the difficulty connected with it. I have on two occasions seen men of ample experience spend two hours or more before being able to unite the urethra; on another occasion an hour and a half was spent with lack of success, the work being left to be completed at a later time, the man being, in the interval, in a precarious condition. Now, the doctor's method of treating that, I think, deserves widespread circulation, for it certainly acted very well indeed, and affords a very happy escape from the great difficulty connected with a case of rupture of the urethra.

Dr. McKENNAN: I have a specimen which may be of interest to the members of the society. It was sent to me by Dr. Ray Grayson, of Washington, Pa. It is a congenital malformation of the rectum. The rectum ends at the base of the bladder. It is interesting on account of the fact that we very seldom get a *post-mortem* in cases of this kind, and it represents a type of cases not at all uncommon. An examination of the rectum here discloses the fact that there is a peritoneum connecting the rectum with the

bladder. The rectum enters directly at the base. Some times the rectum enters the bladder at the vertex. After an examination is made, it will be seen that the peritoneum surrounds the entire lower part of the rectum running from the bladder directly to the rectum and surrounding it. This case represents one of a type of these cases of congenital malformation of the rectum which vary from occlusion of the anus to complete absence of the lower bowel. It is said that congenital malformations of the rectum and anus occur about once in every 5,000 deliveries, although some observers state that in statistics of 66,000 cases of delivery, congenital malformation of the rectum and anus occurred only three times. Other observers, however, state that congenital malformations do occur as often as one in every 5,000. To my knowledge, quite a number of cases have occurred around here. It is obvious from the malformation here that operative procedures were hazardous. An attempt in this case was made to reach the rectum but failed. The diagnosis was properly made of entrance of the rectum into the bladder by the appearance of the feces in the urine. The operation, I believe, was made on the patient on the 17th day, and the patient lived until the 26th day.

DR. STEVENSON: I have seen three cases of imperforate anus: in one of the cases the rectum terminated in the bladder. In that case there was an attempt made to reach the rectum, but it failed and the child died. In two other cases I have seen, the rectum was reached, and the method pursued was passing up a hypodermic needle and withdrawing the feces and cutting up alongside of the needle, and the rectum was reached and drawn down and the opening stitched. These children both recovered, and had no trouble with their bowels.

DR. STEWART: It seems to me that in this case a suprapubic cystotomy would have been proper, and would have given relief.

DR. BUCHANAN: I think a very much better way would have been to open the sigmoid flexure of the colon; that can always be reached. It would be very much better to drain the feces out by an abdominal fistula than through the bladder.

DR. McKENNAN: I find that operations in cases of this kind have never been successful. Operations have been done, some operators opening the perineum, cutting into the bladder and thence making a cut clear through the opening of the rectum into the bladder, making thus a large wound into the perineum. But this method of procedure

either produces peritonitis or it causes a fistulous opening in the perineum, which greatly contracts. The only operation which can be done with safety is that suggested by Dr. Buchanan, and that is the operation of colotomy. I find that in malformations of the anus and rectum, that in which the rectum enters the bladder occurs in about forty per cent. of all malformations.

GENERAL DISCUSSION ON SURGICAL JOINTS.

DR. MURDOCH: I am not exactly clear as to what is meant by surgical joints. I suppose it may be joints liable to disease or injury, or that might come under the care of the surgeon, but in that case it would properly include every joint in the body, for there is no joint that might not require surgical treatment; therefore, I do not like the term wholly. I suppose, however, reference is intended to be made to those joints which more frequently come under the care of the surgeon, either for disease or injury, and as that would be so much as to include the whole subject of tuberculosis and all kinds of injuries to the joints, I am not able or willing, and if I were there would not be sufficient time, to discuss the subject as a whole. It might be said, however, that there have been great changes in the surgical treatment of joints within a comparatively few years, as you are all well aware. This has arisen in a great measure from the fact that because of the great improvements in surgery since the introduction of antiseptic treatment of wounds the joint can be invaded and dealt with with so much less risk than formerly. That is one reason. And it seems to be a sufficient reason in the minds of a great many surgeons, that simply because joints can be got into and incised or scraped out, that is a good reason for doing it, and of course this must enter into the problem of whether such an operation should be done. Another reason why the joints are more frequently treated surgically now than formerly is owing to the changed views with regard to the chief disease which attacks the joint, namely, tuberculosis. Without entering into a discussion of the pathology of that disease, we are all, I believe, convinced that the former ideas with regard to it were not correct. I think we all believe now that it is an infectious disease and is not always inherited from the parent. We believe the trouble is usually of local origin, and there is a local focus from which the disease starts, and it is in that view, I think, that a great many operations are now done by surgeons who would have formerly looked with doubt upon the idea

that the local focus of the tubercle can be taken away before it has found localities in other parts of the body. In my recent visit to Europe, both in Ireland and Scotland I saw surgeons there opening into the joints in cases where I am sure nobody here in the United States would think of operating upon, nor do I believe they would be permitted to operate. I saw the joints of young people opened where there were none of the aggravated signs which we look for here, with a view of excising this local focus, which it was believed existed either in the bone or in the joint. I saw, for instance, a surgeon, Dr. McEwen, of Glasgow, operate on a child about fourteen years old, able to walk without much limping, but afflicted with what we call the first stage of hip-joint disease. I saw him cut into the joint and remove the head of the femur. In Ireland I saw a surgeon operating by what they call there an anterior procedure. In these operations they did it in the first stage of disease, before the disease had extended and made much or any destruction of the joints, but they do this operation on an entirely different principle from what I have been in the habit of seeing. They do it with the least possible violence to the joint; the head of the bone is not thrown out of its position. In both of these operations, Dr. McEwen did his operation posteriorly, making the usual incision from the crest of the ilium down from the joint, a short incision, and then introduced his chisel through an opening not over an inch and a half long, and by its manipulation, much pressure and lateral motion, he was able in a very short time to cut off the head of the bone, and then introduce his finger, and extract the head. As I said before, I not believe this would be permitted in our country. We see so little of joint diseases here, tubercular diseases, compared with what I saw in Ireland and Scotland. This is accounted for by the fact that the patients are not so well fed there. Among the poor in Scotland, the number of young people with joint diseases is remarkable. Now, as I said before, I do not expect to be able to treat all of this subject, and I must say that I have had very little experience in the treatment of any of the joints, excepting that of the knee. I have had some experience in that, and have excised the knee some eight times, I think, and with seven successful cases. My friend, Dr. King, at the West Penn Hospital, has perhaps excised more, and has lost but one patient. I wish to speak of the difference between present practice and that in vogue when I was a

young surgeon. I know of no subject which shows the great improvements that has been made in surgery more than this one of the manner in which the joints can be opened. During our late war, for gunshot injuries of the knee-joint there was fifty-seven operations performed, and of these fifty-seven, forty-four patients died. Mr. Otis, in his report of our late war, states that previous to the war there were some eighteen excisions of the knee-joint, of which sixteen were fatal. Now, the operation of excision of the knee-joint is one that is almost universally successful, that is, the patient seldom dies under the operation, and it usually results in a useful limb. In Ireland, where they do this operation a great many times, with great success, I was shown at the Richmond Hospital some twelve cases that Dr. Thompson had in the Hospital under recovery. He told me that he had done the operation forty times, with only one death, so that no doubt the operation is one recognized as proper, when formerly amputation would have been in all these cases considered the proper course. When I look back upon my practice, even as late as when I became surgeon of the West Penn Hospital, within twenty years, I can remember patients who lay there for a year or two years with white swelling, as we called it, and eventually perished. I have seen some of these cases amputated, and I have seen several of them succumb simply from the confinement and the inability of the doctors to do them any good. Now these cases would not be permitted to stay there two weeks before some surgical operation would be performed for their relief. As you know, a local focus exists in tuberculous disease; it may be necessary to incise the joint, but in other cases, when only the synovial membrane is involved, the operation of arthrotomy may be performed; opening the joint up widely and dissecting out the entire synovial membrane and scooping out with a gouge any local focus that may be found. The disease I do not believe ever commences in the cartilage. I desire, however, to state at this time, and it is probably all that is necessary for me to say to you to show the method that Dr. Thompson uses to the knee-joint, after having opened it, that this is much superior to anything that I have seen, although it is a good deal like the apparatus which I use myself. I have brought it with me and will show it to you. In operating on a knee-joint, we make what is called the horseshoe incision. This is made by commencing well back, and carrying the knife downwards and upwards across to a

corresponding point on the opposite side, the joint opened, and if it is only desired to perform arthrotomy, the whole of the membrane is scraped with a scoop and cut away with the scissors, and then the flap is repleased. But if, on the other hand, it is desired to perform excision of the joint, the bones are cut off and fastened together with nails and a splint. The design of those who operate by cutting parallel with the articular surface is to leave the limb at the same relative angle. Dr. Thompson and those surgeons who have had the most experience in operating tell me that is not the proper way to make the section of the femur; he makes the section of the femur at right angles with its axis, so as to make the leg perfectly straight, as it is in the normal leg. I am inclined to believe that is the better way. I will not go into the manner of cutting the bone, as the surgeons all know that as well as I do. The best way of fixing the limb, that is the important part of the operation. I presume part of the success of this operation in recent years has been owing to this fact. Older surgeons had been in the habit of using wire and other appliances, which did not accomplish the purpose very well. I believe the idea of doing anything to keep the parts in apposition originated in Germany, by the use of steel nails driven with a mallet into the bones. I do not think that was as good a means for keeping the bones in place as the one suggested by me. In Ireland they use silver pegs about an inch and a half long, after making a hole with the bradawl. The nails which I use are four and a half inches long for an adult. They are made for me by Mr. Helmold, and according to the pattern of Mr. Wyeth. The nail should be tapered so that it binds as it proceeds. Three nails should be used. Then hold the bone in perfect apposition with the assistance of the external apparatus. The apparatus which Dr. Thompson uses, and which I think is the best way to hold the limb steady, is made from common hoop iron, an inch and a half wide. This is easily manipulated; it is simply wrapped around with a bandage over it to hold it in place, an anterior and posterior splint. The posterior splint is put down around the ankle joint and up on the foot, the anterior one leaving a space for the dressing over the knee-joint, and after the operation it is not disturbed for three weeks, unless the elevation of temperature is over 100° F. There is a drainage tube put in across the joint behind the bone, well down, and usually it is a very successful operation, I could relate

some of my cases, but I will not trouble you with that; the time is passing. I will, however, mention a case that I operated upon at the West Penn Hospital, a man forty-seven years old, a miner, suffering with disease of the joint. Although in this case I feared the operation could not be very successful, the man made a remarkable recovery. He walked into the operating room four weeks after the operation with a cane, and left the Hospital in eight weeks. He had been suffering for two or three years. I received a letter from him three months after he left the Hospital. He said: "With the greatest of pleasure I let you know that I am walking without crutch or cane. It was on the 5th of February that I walked. I was very much surprised at myself when I did it. From the day that you operated on my knee until the day that I walked was four months and eighteen days. How is that for an old man? Therefore I thank you most respectfully for your skilful operation on me."

The joints in which operations are the most useful and in which the surgeons now have the most experience and have done the most benefit are the knee, the hip and the elbow. Excision of the elbow for injury is a most successful operation; so is excision of the knee. But I will say, as I said in the beginning, that there are many surgeons who think that because excision of the joint is done with such safety there is a good reason for doing it. It should always be remembered, especially by the young surgeon, that an excised joint is an admission on the part of the surgeon that he is not able to cure it. As our knowledge of tuberculosis advances, and we are able to treat tuberculosis successfully in the lung, we will be able to treat it successfully in the joint, and operative interference will not probably be essential then. It should never be forgotten, as the very first principle in the treatment of all joints, that the first consideration is rest, putting the parts at rest. If joints can be kept still even where there is a local focus of tuberculosis, if they can be kept still, and proper hygienic measures resorted to, many cases will never call for aid from the surgeon. I believe the improvement in the treatment of disease rests in an early diagnosis, and early treatment. Having said this much, with little regard for order, I leave the matter in your hands.

DR. DAVIS: The term surgical joints has been used to describe joints that call for surgical interference.

DR. STEVENSON: I have never made claims to being a surgeon, but have been so

situated that I have had to do a little surgical work. I practiced for twelve years in Westmoreland county; I was medical man, surgical man, obstetrical man, and so forth. I had charge at that time of the Penn Gas Coal Company's works, which employed some seven hundred men, and I necessarily saw a good deal of injury. I think the first case I saw after I opened the office was a compound fracture of the ankle-joint, with dislocation of the tibia. After cutting, and having two or three men exert all the strength they could, I could not get the tibia returned into the joint, so I found a meat saw and sliced off about a half inch and got it reduced, and that man is walking about to-day. I saw not long after that a carpenter doing something with a foot adze, the corner of the adze striking him just over the joint, and penetrating the joint. When I saw him the synovial fluid was exuding. This being before the era of antiseptics it ended in an amputation about four inches above the knee-joint. The man got well with the loss of the limb. I have no doubt the improved methods of treatment would have saved that man's leg. I saw another case which was probably a tuberculous joint. It seemed to start without any known cause, and after continuing quite a number of months, the joint suppurated and I found it necessary to amputate above the knee. That man was not so fortunate as the other, his general health gave way and he died, although the stump had healed and done fairly well. One of the first important things is the diagnosis. What have we? Now in joints, we have a great many structures, there is bone, there is cartilage, there is synovial membrane and ligaments and the surroundings. Any or all of these may be involved, or none of them may be. We have what is called simulated disease in joints the same as we have simulated diseases of other organs. We may have a mimicry of disease in a joint, and this may simulate almost anything. It is a very important matter when a surgeon or practitioner is called to a lady, nervous, of inherited tendencies, want of stability, easily excited mentally, and finds that she is complaining of a severe pain in the knee. You look at the joint, you see it is swelled; she says she can not use it, you attempt to use it, she screams out with pain. No doubt it is very important to determine whether it is a hysterical joint.

The constitutional history of the patient may decide this, but if you have an inflammation of the knee-joint, you will have

local heat. Possibly, you will have constitutional heat. If you feel this joint and it is cool or clammy, and you take the temperature of the patient, and you find there is no fever, there is strong ground for suspecting that you have no chronic trouble in the knee-joint.

DR. BATTEN: In speaking of operations for joint diseases I will not go into a discussion upon surgical treatment. I believe it has been established that these diseases are of a scrofulous nature, and it was believed that that was a fact up to the time that Koch discovered his bacilli. Since that it is believed that the tubercle bacilli caused all these conditions of the joint, and that they are not hereditary. There is a question in my mind whether they are not hereditary. I believe the bacilli can be carried from the mother, a phthisical mother or a scrofulous mother, to the infant. However, that is a question. But there is one case I know in which an operation was not performed. It was a boy about ten years old, whose parents were living. He had what was called white swelling or inflammation of the knee-joint. He was placed under the care of a great many physicians or surgeons, but there were no operations performed, and he finally recovered from this condition, and is at the present time using all the joints and is an active, healthy man. I would say, however, that Dr. Murdoch is deserving of a great deal of credit for the manner in which he performs these operations, and the success that he has had in giving relief to the patients upon whom he operates.

DR. KENIG: In surgery, I think we all admit, cleanliness ranks superior to godliness. In view of the recommendation that Dr. Murdoch has made of a certain instrument, it seems to me that we must accord him greater godliness than cleanliness. With his well-known ingenuity he should be able to construct some appliance capable of being made aseptic, after which he would have no occasion to recommend the use of an instrument as crude as the one he has shown us.

DR. LANGE: I will relate one or two cases. A boy about eight years old while playing on the carpet screamed, said he had hurt his knee, and when his mother got it uncovered, she found on the most prominent part of the knee a single drop of blood, which was wiped away and the little fellow moved around the house, but limped. His mother instituted a search for needles and found half a needle with the thread in its eye. The accident did not seem to trouble

the little fellow much until the third day. Although there was no swelling and very little heat, there was a good deal of pain, and when called, I considered it probable a piece of the needle was in the joint or about the joint, and that it would be the proper thing to anesthetize the boy and attempt to remove it. This was done, a careful search was made for the piece of needle for more than an hour and a half. The joint, however, was not entered. After that, the little fellow was put to bed and his limb on a straight wooden splint; he was kept in that way two weeks and then allowed to get up. He was up about a week and was again seized with pain and this time a distinct fullness of the joint. The four depressions at the four corners of the patella had disappeared and were replaced by four convexities which fluctuated.

The leg was put in plaster and all motion of the knee-joint was prohibited by the plaster for three months. Then the plaster was taken off and the boy beginning to be active, there was again a slight swelling of the joint, and the plaster was reapplied and kept on for a couple of months more, and then taken off; and finally we saw the end of that surgical joint. The needle has, in all likelihood, become encysted, and will likely do no more harm. The other case was that of a boy riding his velocipede and falling with it. He was picked up and carried home, and when his doctor saw him he concluded he had a dislocation of the femur, because the leg was fully an inch and a half or two inches longer than the other, and because it was rigid, immovable and painful. The doctor chloroformed him, and attempted to reduce the dislocation, and thought he had succeeded. He applied a bandage to the boy's thigh and pelvis, and put him to bed, and the boy complained very little for two or three days. After this the doctor took off his bandages, examined the limb, and found it was fully two inches longer than the other. It was then I saw the boy, and examined him under chloroform as the doctor had done. The curious part of the case was that when the boy was anesthetized his limb was the same length as the other, and it was evidently not dislocated; but when the boy came from under the influence of the anæsthetic, the limb lengthened two inches. The parents sent for additional counsel, and the last medical gentleman called in concluded that the boy had hip-joint disease. We could not make a diagnosis, allowed that to go, and put the boy to bed.

He was kept there two or three days, then got up and walked, and had no pain nor deformity. On a later occasion when I saw him he complained of pain, and again his leg was apparently two inches longer. We examined him very carefully, and we found that this was a simulated disease, that, as my friend, Dr. Stevenson, has characterized it, it was an hysterical joint, and that the lengthening was not between the pelvis and the femur, but was produced by muscular tilting of the pelvis. The length from both anterior superior spinous processes, to corresponding points below, was always the same, even when the leg projected two inches beyond its fellow. On the other hand, a line from one anterior superior spinous process to the other is not at right angles with the body, but two inches lower on the side where the leg seems longer. This boy is now actively about, painless and straight; but when he is cross, wilful, or disappointed, he complains of his hip, tilts his pelvis, and lengthens his leg.

DR. GREEN: Dr. Lange's case reminds me of a surgical joint with which I have had some trouble. The patient, whom I have been called to see many times, has the power of dislocating the lower jaw. She is a girl of nine years; she has always been notorious for will power. Her mother told me that from childhood, whatever she asked for had to be given her. She would say: "If you don't give it to me I'll stretch," and immediately, were the request not granted, the child would begin to "stretch," and open her mouth just as wide as she possibly could, until her jaw would slip out. About two months ago I replaced the jaw; whether she has done much stretching since that time I do not know. I have known some persons who frequently had dislocations of the lower jaw, but in no other case have I seen a person who could wilfully, maliciously, bring about this condition of affairs by stretching, and this boy of whom Dr. Lange has spoken reminded me of the spoiled child who "stretches."

DR. BUCHANAN: I understand the subject of the evening to be surgical joints, and those, I presume, are joints which are subjects for surgical treatment, either from disease or accidental injury. Vast improvements have been made in the treatments of injured joints within the last ten or fifteen years. It is within my recollection when a simple puncture of the ankle-joint, and an injury requiring amputation of the anterior part of the foot, would have determined a Syme's operation, or an amputation of the

leg. So great stress was laid upon the fact that a joint had been opened, and I believe this to be true with very many medical men to-day, that when called to such a case, the question of amputation rises strongly in their minds. It is well known to-day by surgeons that the synovial membranes can be treated in very much the same way, and with the same impunity as the tendinous sheaths, or any other of the soft tissues of the body. The thing of importance is, when these cavities are open, to keep them aseptic. If this is done no harm can result from the opening, and in the case of the joints we have exactly the same means of keeping them aseptic as in case of the peritoneal cavity, and we can, in addition, if desired, use antiseptic solutions. Now, we are constantly called to dress injuries of joints, particularly fractures of the bones which go to form the joints; and I am satisfied that the practice will be in the future, in many cases, to open joints, wash them out, repair the soft parts, and wire the fragments of bone where the joint has been subcutaneously opened, and where the bones cannot be kept in apposition without great trouble, painfully pressing splints and firm bandaging. I am reminded of a case which Dr. Murdoch saw with me in consultation about a year ago. The patient had a simple fracture of the fibula and a fracture of the inner malleolus. I was called to the case and reduced the fracture without great difficulty, and was able to place the broken malleolus exactly in its position, and retain it there with a simple splint. Dr. Murdoch was called in consultation at the request of the patient, and, to my satisfaction, the next day, we endeavored to replace this dressing by another more permanent in character. This set up a frightful spasm of the muscles of the fibular side of the limb, and the spasms were so great that, using all our force, we had not the power to overcome them and place the limb in shape. I never saw a patient suffer more than did this patient for a few minutes. These sharp-edged fragments threatened to break through the skin and form a compound fracture. I proposed at the time, although the patient refused to listen to any suggestion of the kind, to make an incision over the point of the fracture, and put in a single silver wire to retain the inner malleolus in position, and the pressure of an ounce or two ounces on that silver wire would perfectly keep the bone in position. Having to start with a simple fracture, having made the wound ourselves, we could keep it aseptic, no harm could come to the joint. I believe

the time will come when that will be the ordinary treatment for such fractures in the neighborhood of joints, where the disposition to displacement is very great, where a very slight force exerted through a silver wire will hold the parts perfectly in apposition, and where we have every possible chance to keep the wound aseptic. There is another aspect of surgical joints not dealt with very often, and that is the advisability, where there is doubt, of making an exploratory opening. I see no reason in the world why exploratory openings should not be made into joints when we suspect disease, as well as into the peritoneal cavity, and as often; but such openings are, I believe, very rare. With regard to case reported this evening, of compound fracture of the inner malleolus and fibula, in which there was protrusion of the shaft of the tibia, in which the patient was etherized, and section of the tendo Achillis made, and a piece cut from the end of the tibia to facilitate reduction, I would say that I reported to this society a year ago a case exactly similar in all respects. I did not find it necessary to do a tenotomy, and the bone was returned without sawing any of it off, and I can hardly imagine a case of this nature in which the same result could not be secured, providing the opening in the soft parts is sufficiently large to let the bones slip in. Muscular action is the only thing that would prevent the return of such a bone, and it can be completely abolished by anæsthetics.

DR. DAVIS: All cases of joint diseases presents certain characteristics peculiar to themselves, and require good judgment on the part of the surgeon at the time, and can scarcely be discussed in a general way, but there are joints that are difficult of diagnosis, that no doubt give rise to a great deal of distress to the patient and give rise also to a good deal of distress to the attending physician, because of the long continued suffering involved. The youngest practitioner is likely to come in contact with such joints. One of the very important questions in such joints is when a surgical operation is advisable, or whether it is advisable at all. Take, for instance, the tuberculous joints referred to. The question comes up, when to operate upon it. Will the opening of these joints remove the diseased tissue? Will it give the patient a better chance of life? It is but a few years since all cases of hip-joint disease were considered the property of the surgeon. We have heard to-night of this being carried to extremes on the other side of the water, and operations done which

would not be allowed here, and yet in looking at the statistics this operation on the hip-joint has not been satisfactory.

In the first place, quite a large percentage of those operated upon have died; perhaps not directly following the operation, but within a few days or a few weeks after it. And of those who have recovered from the direct result of the operations, over one-half have died where the diseases have been of tuberculous origin, in such a short time that it is questionable whether the operation does not hurry the general disease. I have read somewhere that out of 388 cases of hip-joint disease operated on, only 61 presented results that could be called satisfactory. Of these 61 there were about 40 that had motion in the joint. Of the 40 there were about 10 who did not have to use the artificial means, such as crutches or cane in walking. Results such as these are not flattering for the operation, and do not lead us to hurry or advise our patient to go into the hands of the surgeon and submit to the operation so liable not to be favorable in its outcome. And then in regard to operations on the knee. While we know that under aseptics it has improved wonderfully as regards immediate death, yet the cases especially where it is tuberculous have not done as well as we could wish. And so of the ankle-joint. I have in mind now a tuberculous ankle-joint where operations have been advised over and over again. I do not know but that if this young man would submit to the operation, and have all this bone removed, the confinement in the house would hasten his end. It is difficult for me to know whether to advise an operation or not. The difficulty with the general practitioner is to know whether to turn such cases over to the surgeon, and with the surgeon to know whether operation ought to be resorted to.

DR. MURDOCH: I think the surgeons who are in advance in this matter of treatment of joints are tending toward diminution of operation at the late stage, where there is great injury to bone. Patients in that condition do not recover well from an incision of a joint, and I believe the tendency of the better surgeons now-a-days, would be to recommend radical measures in joints such as Dr. Davis has described. If the bones are extensively diseased, and the joint extensively involved, the patient would be likely with an excision, to perish from general giving way of the system. I fully believe that such surgeons as McEwen, of Glasgow, and Barker, of London, and the surgeons most in advance, operate early,

when the disease is local, and before it has yet attacked the synovial membrane, then is the time to operate at the earliest stage, when it is possible to remove the disease, and it can be removed through a smaller incision without disturbing the relations of the joints, and a movable articulation may then be possible. In Ireland and Scotland, where there are hundreds of these cases to one here, the people have been educated up to the necessity of not allowing this disease to go on, and are willing to submit to an early operation. I am very sure the people here will not submit to the early operation thought proper there. I believe that it will yet come to be the proper practice where a diagnosis can be made sufficiently early. I will say to Dr. Koenig that if he will come up some time to my operations, I will show him how to do the operation, and how I have been so successful in preventing infection of the wound with the washouts I use.

SELECTED FORMULÆ.

ICHTHYOL IN THE TREATMENT OF DYSPEPSIA.

Stocquart is quoted by the *Revue Internationale de Bibliographie* as having recorded seven clinical observations regarding the use of ichthyol, for the purpose of relieving vertigo and other cerebral disturbances arising from simple dyspepsia or indigestion in the gastro-intestinal canal. He found that when ichthyol was administered with the bromide of potash, the latter drug was very well borne by the stomach, and that the appetite was improved simultaneously with the increase of digestive power.

SUPERIOR LIQUID GLUE.

| | | |
|----------|---------------------------|---------|
| R | Gelatin..... | 3jss. |
| | Glue, Russian..... | 5jss. |
| | Acetic acid, glacial..... | 5j. |
| | Alcohol..... | 5jss. |
| | Acetic acid, 20 p. C..... | 5j. |
| | Alum..... | gr. ij. |

Put the gelatin, glue and acetic acid over a water bath until liquid, then add the alum and alcohol. When thoroughly mixed, fill into appropriate bottles.—*B. & C. Drug.*

CREOLIN IN ERYSIPELAS AND ECZEMA.

“Dr. Rothe has used in the treatment of erysipelas a creolin ointment containing—

| | | |
|----------|------------------------------------|-----------|
| R | Creolin..... | 1½ parts. |
| | Creta præp., axung. porc., aa..... | 15 " |
| | Ol. menth. pip..... | gt. 5. |

This is spread in the thickness of the

blade of a knife over the diseased parts twice or three times a day, a thin layer of cotton-wool being applied as a covering. In from twelve to twenty-four hours improvement was always apparent, and the disease was cured in three or four days. The same ointment also did good service in a case of weeping eczema of the face, as also in several cases of eczema in children. A patient suffering from scabies was treated with a thorough washing with soft soap and inunction of this ointment, with such a decided effect that Dr. Rothe considers creolin to be undoubtedly a specific for the disease."

—British and Colonial Druggist.

FOR GONORRHOEA.

The following antiseptic injection is employed by Brindisi:

R Antipyrin.....gr. xlv.
Sulphate of zinc.....gr. iv.
Rose water.
Cherry-laurel water, aa.....f 3ij.

M.

—Rev. Gen. de Clin. et de Therap.

TREATMENT OF SYPHILIS DURING GESTATION.

Beanier insists upon a tonic and an energetic specific treatment for the above condition. Good alimentation, syrup of the iodide of iron, and preparations of cinchona bark, with the daily administration of the following pill:

R Bichloride of mercury.....gramme 0.01.
Thebaic extract.....grammes 0.005.
Gentian extract.....grammes 0.005.
Glycerine.....s. c.

—Journ. de Médecine de Paris, Sept. 13, 1891.

FOR PARASITIC DERMATOSIS.

The following ointment is recommended by the *Journal de Médecine de Paris*, for the treatment of parasitic dermatosis:

R Acid salicylic.....grammes 5.
Creosotil....." 2.
Saponis....." 100.
M. et Signa. To be applied to the affected parts.

FOR CHRONIC DIARRHOEA AND DYSENTERY.

Maget advises the following combination for the treatment of the above affections:

R Calomel.....grammes 0.60.
Pulv. Ipecac....." 0.40.
Ext. opil....." 0.05.
M. et ft. Pilula vi. Sig. One pill every two hours.

—Rev. de Therap. med. Chirurg., Sept. 15, 1891.

TREATMENT OF CYSTITIS.

Wyman and de Laval recommend the following formula in cases of cystitis, whether acute or chronic:

R Ext. pichi fl.....grammes xxxij.
Potassii nitratis....." iv.
Syr. simplicis....." xc.
M. Sig. A teaspoonful every three hours.

M. de Laval states that this mixture gives the best results in all varieties of cystitis, whatever the origin may be (senile, gouty, from calculus, traumatic, gonorrhœal, etc.), and finds it useful also in hæmaturia. It is, however, contra-indicated in cases of Bright's disease, in which malady pichi seems to increase the albuminuria.

Pichi (*Fabiana imbricata*) is a plant from Chili, and was brought to the notice of the profession by M. L. Boyer, in France, in 1886, for the treatment of cystitis and urinary affections. M. de Laval advises the use of a fluid extract made from the young twigs of the plant, and not, as used by the natives, an infusion of the woody portions, which is much less active.—*La Semaine Médicale*.

ANTIPYRINE IN DERMATOSES OF CHILDREN.

In the treatment of pruriginous dermatoses of children, Blaschko employs the following:

R Antipyrine.....grammes v.
Simple syrup....." xxv.
M. Sig. A tablespoonful for a dose.

—*Le Bulletin Médical*, Sept. 9, 1891.

ARISTOL FOR PULMONARY TUBERCULOSIS.

Nadaud has proposed, before the Academy of Medicine, Paris, the following for the treatment of tuberculosis, in the form of hypodermatic injections:

R Oil of sweet almonds.....grammes c.
Aristol.....grammes 0.01.
M. Sig. One cubic centimeter of this liquid to be injected at a time.

—*Le Bulletin Médical*, Sept. 16, 1891.

FOR HERPES GENITALIS.

After washing the parts with a weak solution of carbolized water, E. Besnier, (*L'Union Médicale*) recommends this mixture to be locally applied:

R Powdered tannic acid.....grammes v.
Subnitrate of bismuth.....gramme j.
Powdered starch.....grammes c.

—*Jour. de. Méd. de Paris*, Sept. 27, 1891.

PASTE FOR ACNE.

Kaposi (*L'Union Médicale*) employs the following paste in the treatment of acne. The part affected being well washed with soap, the paste is to be applied during the night, and in the morning must be replaced either by glycerine or by the common ointment of zinc:

| | | | |
|----------|----------------------------------|---|------------------|
| R | Washed precipitated sulphur..... | { | grammes x, each. |
| | Pure glycerine..... | | |
| | Carbonate of potassium..... | | |
| | Hydrolate of cherry bark..... | | |
| | Alcohol..... | | |

Jour. de Méd. de Paris, Sept. 27, 1891.—

FOR ACNE.

Payne (*Intern. ph. G.—Anz. Pharm. Post*, 1891, No. 5, p. 95) in the treatment of this disease, uses the following mixture to be applied, after washing of the parts:

| | | |
|----------|--------------------------|------------|
| R | Sulphur..... | gramme j. |
| | Camphorated alcohol..... | grammes v. |
| | Lime water..... | lxxx. |

Or this ointment:

| | | |
|----------|-----------------------------|--------------|
| R | Sulphur..... | gramme j. |
| | Lard..... | grammes xxx. |
| | Phenic acid..... | gtt. x. |
| | Carbonate of potassium..... | gramme j. |

At the same time the author advises the use of purgatives.—*Jour. de Méd. de Paris*, Sept. 27, 1891.

NAPHTHALINE AS A VERMIFUGE.

According to Dr. Mirovitch (*Mecredi Médical*) naphthaline is an admirable remedy, not only for ascarides, but for tape-worm. He considers it much more certain and far less poisonous than most of the other vermifuges. For adults he prescribes a fifteen-grain powder, to be followed immediately by two ounces of castor oil. For children the following:

| | | |
|----------|--------------------------|------------------|
| R | Napthaline..... | gr. jvss to vij. |
| | Castor oil..... | ss. |
| | Essence of bergamot..... | gtt. ij. |

For two days before the dose the patient is directed to live on salt, acid and highly seasoned food, then the naphthaline is given fasting early the following morning.

PROLAPSUS UTERI.

| | | |
|----------|----------------------------|---------|
| R | Tinct. cimicifuge..... | f℥ j. |
| | Aletris cordial (rio)..... | f℥ vij. |

M. Sig. Teaspoonful four times a day.

This often cures without the aid of mechanical support.

INFANTILE CONVULSIONS,

| | | |
|----------|-----------------------|-----------|
| R | Chloral hydratis..... | gr. iv. |
| | Potassii bromidi..... | gr. viij. |
| | Aque..... | |
| | Syrupi, aa..... | f℥ j. |

M. Sig. One dose for a child mt. two.

—Jacobi.

THE ADMINISTRATION OF MERCURY TO SYPHILITIC INFANTS.

Dr. Simon (*Journal des Maladies Cutanées et Syph.*) says that for an infant of five or six weeks the liquor of Van Swieten is considered preferable to other preparations, in the dose of fifteen to twenty drops per day, taken in three or four divided doses. Mercurial frictions can be applied at the same time in the arm pits.

The following formula is given:

| | | |
|----------|--------------------------|-------------|
| R | Neapolitan ointment..... | grammes ij. |
| | Lanolin..... | vj. |

Mix and divide into six doses.

Each dose being wrapped separately in paraffin paper, according to Widerhofer's plan. Each day one is used for a friction in the axilla, and after from two to four days a tepid bath is given.

Widerhofer also employs the following ointment upon the sides of the nose:

| | | |
|----------|----------------------|--------------------|
| R | Red precipitate..... | centigrammes o.or. |
| | Lanolin..... | grammes x. |

This is to be applied by mild frictions in quantity equal to that of a pea. This mode of application has the advantages of diminishing the swelling of the mucous membrane of the nose, when it exists, thus permitting the infant to take the breast more readily.

Corrosive sublimate baths are useful, especially in rebellious cases which do not give way to the means above referred to. They must be repeated every three days, and, during the immersion care must be taken to prevent the infants from swallowing any of the toxic fluid.

The following is the formula for each bath:

| | | |
|----------|-------------------------------|---------------|
| R | Corrosive sublimate..... | grammes o.30. |
| | Hydrochlorate of ammonia..... | gramme j. |
| | Distilled water..... | grammes cxx. |

If the infant is over six months of age, and is raised on the bottle, the milk can have Gilbert's syrup added to it, a third of a teaspoonful in divided doses during the twenty-four hours. The author administers a potion of which each teaspoonful contains one centigramme of mercurial salt and half a centigramme of the iodide of potassium or sodium.

The following formula can be advantageously employed:

| | | |
|----------|----------------------------|---------------|
| R | Binioidide of mercury..... | grammes o.10. |
| | Iodide of sodium..... | |
| | Distilled water, aa..... | gramme j. |
| | Syrup..... | grammes x. |

This is to be given according to the age of the infant, a dose of half a teaspoonful for an infant of one year, a teaspoonful for a child of two to three years, two teaspoonfuls for a child of from three to five years, and three teaspoonfuls for a child of five to eight years.

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The Editor will be pleased to get medical news, but it is important that brevity and actual interest shall characterize communications intended for publication.

LEADING ARTICLE.

THE VALUE OF PSYCHICAL THERAPEUTICS.

In a paper entitled "Psychical Therapeutics," Dr. William B. Sprague, the retiring president of the Detroit Academy of Medicine, has called attention to the value of mental impressions in the treatment of disease. While Dr. Sprague has only repeated what every physician of any experience knows to be true, still, his words are a timely reminder that in the hurry of a busy practice, or in the faithful performance of all the most modern means to arrive at scientific accuracy in diagnosis, we should not forget to use our personal influence for the good of the patient.

It would seem that we are only beginning to appreciate how powerfully mental states affect bodily processes. Dr. G. Bassi has demonstrated fully that in animals dying of grief are commonly found hyperemia, capillary hemorrhage and parenchymatous degeneration of the internal organs. Schüle and others have found parenchymatous degeneration in persons dying of acute delirium. The theory held by Bassi is, that the nervous disturbance affects the nutritive processes in such a manner as to cause the formation of poisonous ptomaines, which are mainly responsible for the fatty degeneration found in the internal organs; just as certain substances, (such as phosphorus,) affect the tissues.

The mental medicines which Dr. Sprague refers to in his paper, are not the so-called "Christian Science" or "Faith Cure," or even hypnotism, but simply those which every physician can freely employ with greater or less effect, viz.: a cheerful face, kindly sympathy, and the adapting of one's self to the needs of each patient's mentality. Those doctors who have become famous for their skill in dealing with nervous diseases could, probably better than any other class of physicians, tell of the value of rightly directing the current of the patient's thoughts; and, we doubt not, largely owe their success to a *fine sympathetic mental constitution*, which

enables them to understand each patient's need and apply the proper psychical remedy, so that hope, cheerfulness, and courage may replace depression and worry.

In the treatment of "nervousness", neurasthenia, hysteria and all functional nervous troubles, the mental impression made by the doctor is perhaps most valuable, but is no less grateful in all of the little daily ailments, which often are routinely treated, when perhaps more good could be accomplished by an understanding kindness and appropriate sympathy. By such means we would occasionally discover, that some deeply hidden grief, or great disappointment, had been the real cause of a previously unexplainable nervous affection. To deal properly with such cases requires experience and the utmost tact, and it should be the constant effort of every conscientious doctor to cultivate diligently all those qualities of mind which at times are more valuable in therapeutics than all the whole pharmacopœia.

CORRESPONDENCE.

INJURIOUS EFFECTS FROM SMOKED GLASSES.

TO THE EDITOR OF THE MEDICAL AND SURGICAL REPORTER:

A patient coming to my office complained that her eyes ached after wearing smoked glasses for a short time. The examination of several pairs of smoked glasses in rubber and other cheap frames revealed the fact that often the concave exceeded the convex curve sufficiently to produce a weak minus lens.

Indeed, so often is this the case that I only prescribe smoked glasses with plain surfaces and free from any inner or outer curve whatever.

It can be readily seen how the good to be derived from wearing a tinted glass would be more than neutralized by the far-sighted patient wearing a near-sighted glass.

RICHARD H. SATTERLEE,
Easton, Pa.

BOOK REVIEWS.

LECTURES ON TUMORS, FROM A CLINICAL STANDPOINT. By JOHN B. HAMILTON, M. D., L. L. D., Professor of Principles of Surgery and Clinical Surgery, Rush Medical College, Chicago. For the use of students. Detroit: Geo. S. Davis. Paper, 25 cents.

In this work are embodied eleven lectures which are intended to give the student a practical acquaintance, in a condensed form, with the general principles, clinical history and treatment of neoplasms. The colloquial form of the original lectures has been retained, and eleven atrocious wood-cuts serve as illustrations. The lectures are very readable, and the student will find this issue of the Physicians' Leisure Library well suited for the purpose for which it was prepared.

MINISTERING WOMEN.—THE STORY OF THE ROYAL NATIONAL PENSION FUND FOR NURSES. By GEORGE WILLIAM POTTER, M. D. London: "The Hospital" Limited. Royal, 12mo., 131 pp.

The Royal National Pension Fund, the author says, may be said to have had its origin in the misfortunes and distress of a particular nurse.

About the year 1878, a delirious sailor was admitted into the Seamen's Hospital at Greenwich, who was suffering with typhoid fever. While the nurse was attempting to move him he spat into her face, some of the saliva entering her mouth. Notwithstanding that the nurse cleansed her mouth, she became infected with the poison and an attack of typhoid fever ensued in its most virulent form. As a result of this the nurse became a permanent invalid; her friends helped her for a time, finally, her funds failed and she went to the poor house, where she died.

The object of this fund is that of a self-helping enterprise, whereby each nurse might provide for her own future wants from her past resources. As it did not seem possible to provide enough from the nurses' small earnings to entirely accomplish this, an endowment fund was raised, which in less than three years reached \$250,000. \$200,000 of this was invested for the benefit of those nurses who are able to qualify for pensions by the payment of their own premiums, or who may be assisted to qualify by hospitals or benevolent persons. The remaining \$50,000 was set apart as a Benevolent Fund to provide for the immediate relief of destitute nurses, and for annuities for aged and disabled nurses.

The book is a record of a noble piece of work. The profits from its sale are devoted to the Benevolent Fund.

PERISCOPE.

THERAPEUTICS.

CHLORALAMID COMPARED WITH CHLORAL.

Killsbren, in an article on Chloralamid, in the *Memphis Medical Monthly*, makes a comparison between chloralamid and chloral on one hand, and sulfonal on the other. His results are as follows:

Compared with chloral:

1. It is more agreeable to the taste, and consequently easier administered.
2. Rarely causes digestive disorders.
3. Does not depress the heart or circulation.

As compared with sulfonal:

1. Much more prompt in its action.
2. Being more soluble, it can be administered easier.
3. Sleep nearly always passes away by morning.
4. It is only about one-half as expensive.

A NEW METHOD OF PRODUCING LOCAL ANÆSTHESIA.

Dr. Wiesendenger describes in the *Journal für Zahnheilkunde* a new method of producing anæsthesia by the application of cold, the characteristic feature of which is that it is not the cold-producing agent which touches the desired part, but a metallic tube or chamber which is cooled by carbonic acid. The cold may, according to the requirements of the case, be regulated from the temperature of cold water to one sufficiently low to cauterize. The first symptom of this artificial cold is anæmia of the cellular tissue, producing a slight sensation of burning, which is followed by anæsthesia, which lasts from one to two minutes and then disappears without any ill effects. As the instrument may be manufactured of almost any shape, it is evident that this new method may be used for a variety of purposes. The simple turning of a tap will regulate the stream of carbonic acid to any degree of temperature down to four degrees Fahrenheit. No moisture is produced. In using this cold for the

purpose of cauterizing the surgeon has the advantage of producing anæsthesia at the same time. When applying it to any of the internal cavities, such as the mouth, it is necessary to have the parts carefully dried, as the tissues would otherwise adhere to the instrument. Dr. Kummel applied the method in the case of a boy in the Maria Hospital at Hamburg with such complete success that the boy looked on without moving a muscle while a deep incision of twelve centimetres in length was made in his thigh. Other gases which can be brought into a fluid state may be used in place of carbonic acid. The carbonic acid which has been used for the purposes of anæsthesia may be led into a vessel which has been tested to a pressure of three atmospheres, and is provided with a manometer and safety valve, whence it could be used as a motor agent or for preserving food. An iron bottle of fluid carbonic acid at a pressure of fifty atmospheres is sufficient for fifty operations. This can be bought for four or five shillings. The instrument for the application of cold to the tissues costs thirty shillings.—*Lancet*.

ACTION OF SUGARS IN THE ORGANISM.

Albertoni, of Bologna (*Archiv. Italiennes de Biologie*, vol. xv, p. 321), administered by the mouth to fasting dogs various kinds of sugar, varying the amount and concentration of the sugar solution, the dogs being otherwise under normal conditions. The animals were killed one hour after being fed, and a very considerable quantity of unchanged sugar was always recovered from the contents of the stomach. Of glucose, about 60 grammes (100 grammes being introduced into the stomach) were absorbed in one hour in large dogs. Maltose, and to a greater extent saccharose or cane sugar, are absorbed even more freely (70 to 80 grammes of 100 grammes introduced into the stomach). Absorption takes place, however, more slowly after the first hour. As to lactose or sugar of milk, the quantity absorbed is much less than in the case of the other sugars, being only 20 to 40 grammes in 100. In this case the sugar is found after death not only in the stomach, but also in the intestine; and moreover, especially if the solution introduced was a concentrated one, the stomach and intestine always contain more water than the amount of water introduced. This may, perhaps, explain why lactose is a purgative, and is sometimes popularly employed as such. Another important point is that weak solutions of lactose

are absorbed more readily than concentrated solutions. In dogs, the intravenous injection of sugar (glucose, saccharose, maltose) increases the frequency of the pulse from 15 to 20 beats per minute, but the increase no longer occurs if the vagi nerves be previously divided. In man, 100 grammes of cane sugar taken by the mouth increases the pulse rate 4 to 8 beats per minute, and the effect is shown from fifteen minutes to one hour thereafter. Glucose, maltose, and cane sugar increase the blood pressure in dogs from 15 to 20 mm Hg, which is not due either to excitation of the vasomotor centres, or to paralysis of the vagi, for the pressure rises equally after section of the cord and vagi. The rise of pressure is, perhaps, due to the more energetic cardiac systole. Sugar introduced into the blood causes vasodilatation of the renal vessels as measured by the oncometer; the quantity of blood flowing out of a kidney may be doubled after the absorption of sugar. Lactose and lævulose, however, produce effects not altogether identical with those resulting from the introduction of glucose, lactose and saccharose. The former two increase the blood pressure, but they diminish the number of pulse beats. The increased blood pressure depends on their action on the cardiac systole, and the diminution of the pulse beats to the intracardiac action of these two sugars on the inhibitory mechanism. All the sugars with the exception of lævulose produce polyuria. Hence it has been proposed to use lævulose in case of diabetes, and Kulz has used it in such cases. If morphine or chloral be given to the dogs, these drugs hinder the effects of the sugar on the circulation, but they have no effect on the polyuria or glycosuria.—*Brit. Med. Jour.*

SPINAL EXTENSION.

The practice of stretching the spinal column in locomotor ataxia and other affections of the spinal cord being based on not very well determined grounds, Dr. Sliunin has recently endeavored to throw some light upon the effects produced by extension of the spine by experiments on both cold and warm-blooded animals. These were carried out in Professor Tarkhanoff's physiological laboratory in St. Petersburg, and showed that when the extension force was equivalent to about three times the weight of the frog or rabbit which was the subject of the experiment, it decreased the sensibility both to touch and to pain, retarded the reac-

tion, and increased the blood pressure. Prolonged extension led to hypersemia of the spinal meninges, especially of those in the lumbar region. The observations on frogs gave less marked results than those on rabbits, and in a small minority of the former the results were contradictory.—*Lancet.*

TREATMENT OF LARYNGEAL TUBERCULOSIS.

Dr. Cozzolino (*Rivista de los Hospitales*, No. 29, 1891) treats it as follows:

Internal treatment is indispensable, for no lasting result can be obtained, as the larynx is continually re-inoculated by contact with the bacilliferous sputa from the lungs. The nourishment should be strong, and above all, should consist of very nutritive substances, as milk, eggs and meat. Fowler's solution given internally in doses of fifteen to twenty drops a day, according to the tolerance of the patient, and cod-liver oil, in doses of two hundred to three hundred gms. (six to ten ounces), taken during the meal, are recommended by Prof. Jaccoud. Before each meal the patient should take a small dose of a mixture of phosphate of lime and two to four drops of the balsam of Peru, the efficacy of which medicine has already been demonstrated by Schnitzler, of Vienna. If this be well supported, then the dose may be increased, and to every dose of cod-liver oil one may add three to four drops of the balsam.

Local Treatment.—Four times a day one may use the following in a spray:

R Aq. destillat., gms. 300 (fl. 5x).
Alcohol rectificat., gms. 10-15 (fl. 2-3jss).
Menthol, cgms. 50-80 (grs. viij-xij).
Balsam Peru, gms. 5-10 (ʒij-ʒjss).

By means of an appropriate insufflator the patient himself may be told to make an endo-laryngeal insufflation of the following powder:

R Calc. phosphate, gms. 10 (ʒijss).
Iodoform, pulverizat., gms. 5 (ʒij¼).
Acid boric, gms. 2 (grs. xxxi).
Menthol cgms. 40-80 (grs. ⅞-ij).

If there be dysphagia present, the physician will apply cocaine before each meal to the arytenoid region. In cases of vegetating or papillomatous tuberculosis, one may perform scarification and curetting of the larynx, according to Hering. This must be done under antiseptic precautions. Cicatrization of the ulcers will take place when all the morbid tissue has been removed. This operation is impossible where the disease has extended over the whole laryngeal and tracheal mucous membrane. In such cases one may

have recourse to intra-laryngeal injections of a solution of 20:100 of menthol with olive oil, Rosenberg's method. Ten grammes (two and one-half drachms) of this solution may be injected into the larynx and trachea once daily before meals. Excellent results are obtained by this method. The painful symptoms disappear, the dysphagia ceases entirely, and the general condition improves. The menthol diminishes the tuberculous infiltration and irritation. If one wishes to act directly upon the tuberculous tissue, one may use camphorated naphthol, which has given very good results in local tuberculosis. By thus treating the affection once or twice daily, a cure can be obtained in a few weeks. This remedy is infinitely less painful than lactic acid. In some cases one may advantageously apply cocaine before each local application.

SULPHONAL IN THE NIGHT-SWEATS OF PHTHISIS.

"Dr. Erede, of Genoa, calls attention to what he calls 'the marked antidiaphoretic action of sulphonah.' He says that if given in the early hours of the evening it almost invariably succeeds in suppressing or greatly diminishing the night-sweats of phthisis. A dose of half a gramme, given in the form of pastille or suspended in some gummy vehicle, generally suffices. The largest amount given was one gramme; this failed of its effect only in a very few cases in which the disease was extremely advanced. As no untoward effects were ever noticed, even in very debilitated patients, Erede thinks that with proper precautions the drug might be pushed up to 2 grammes, the usual hypnotic dose. In many cases he observed that in discontinuing the sulphonah after a time the sweating did not begin again at once, but only after some days, when it was immediately checked by repeating the medicine. This shows that the organism does not readily adapt itself to the prolonged use of the drug, as it does, for instance, to certain narcotics. Erede is inclined to think that the effect of sulphonah in checking diaphoresis is to be explained by its action on the nervous system."—*British and Colonial Druggist*.

ARISTOL IN THE TREATMENT OF TUBERCULOSIS.

Hérard has reported to the *Académie de Médecine* Nadand's method of treating tuberculosis by the subcutaneous injections of

aristol. The drug has been employed with success in the following form:

R Aristol.....1 c. c.
Sterilized oil of sweet almonds.....100 c. c.
Dose, 1 c. c. per day, subcutaneously injected.

Of 23 patients subjected to this treatment 7 felt so well that they considered themselves cured. No accidents were observed. The duration of treatment varied from 25 to 30 days.—*La Médecine Moderne*, Sept. 17, 1891.

THE LOCAL TREATMENT OF DYSENTERY.

Dr. H. C. Wood writes in the *University Medical Magazine*, that in acute dysentery, involving the colon high up, he has found large enemata, containing two to three drachms of subnitrate of bismuth, much more efficient than the exhibition of bismuth by the mouth. When the symptoms are severe, this local treatment may often be preceded with advantage by washing out the colon with large quantities of cold water. He has never used injections of nitrate of silver in acute dysentery, although the effect of the local application of the nitrate in other inflammations of mucous membranes would justify trial of the remedy. He has seen, in one or two cases, large enemata of very hot water injected without affording relief, and believes that hot water enemata are, in their ordinary results, not at all comparable with large injections of ice-cold water.

When the lower part of the colon is affected, the local use of ice sometimes has an almost marvellous effect. He has, indeed, seen the whole aspect of a very severe and alarming case, in which the symptoms indicated that the colon was affected high up, changed in a single hour by the continuous use of *ice suppositories*. While it is not necessary to have the pieces of ice entirely regular in shape, care should be exercised that no sharp edges are left. The suppositories should be rapidly used, one being put into the rectum every three to five minutes, so as to get, for at least half an hour to an hour, the effect of the continuous application of cold.

When the tenesmus is very severe, iodoform suppositories are often much more efficient than opium in bringing relief.

A remedy which has been from time to time recommended very highly in dysentery, but has not, he thinks, been much used, is ergot; and when the passages contain large quantities of blood, or are nearly pure blood, the extract of ergot would seem to be indicated. He has never used ergot by the

mouth in these cases, but has employed suppositories containing twelve grains of extract of ergot and four grains of iodoform, used every two hours until four or five suppositories had been taken with, seemingly, great advantage.

He does not mean to advocate the local treatment of dysentery as a substitute for the use of mercurials, purgatives and ipecacuanha, etc., but as a very important adjuvant to the older forms of treatment. Nevertheless, in my experience, the effect of local remedies has been more prompt and decided than that of drugs given by the mouth; but in cases of any severity the attack upon the disease may be made from each end of the mucous tract.

MEDICINE.

THE ACTION OF ASPARAGUS ON THE KIDNEY.

During the asparagus season, when patients are constantly asking if they may partake of this favorite vegetable, and they are assured by their medical attendant that it is both wholesome and diuretic, I wish to know if this latter character assigned to it is correct and substantiated by careful observation. I am acquainted with instances where the very opposite is the effect. The urine is diminished to half the usual quantity and micturition lessened in proportional frequency. Dr. Lauder Brunton says that the odoriferous character of the secretion is due to the decomposite of asparigin, and that one of the products is supposed to be succinic acid. Has this alkaloid a stimulating or inhibiting action on the kidney?

DR. SAMUEL WILKS, in the *Lancet*.

AN UNUSUAL SYMPTOM IN MIDDLE EAR DISEASE.

Dr. R. Lake, in the *Brit. Med. Jour.* writes: That sound caused by air entering the middle ear on inflation can usually only be heard by means of the diagnostic tube, induces me to put the following case on record. Grüber says, speaking on this point, "for the more distinct perception of which [sound] the otoscopic tube is employed." Politzer, "which [sound] can be perceived either by placing the auricle immediately to the concha of the person," and also "this blowing sound has various degrees of strength and distinctness."

The patient a young lady of twenty-one,

was under treatment with middle ear catarrh due to Eustachian obstruction; air would not enter the cavities of the tympani either by Valsalva's or Politzer's method, and could only be driven in through a very fine catheter; the finest Eustachian bougie failed to enter the tube at all. Hearing (watch) left normal, and right four inches; after inflation eighteen inches. On February 10th, 1891, I examined the naso-pharynx under ether, and, finding some adenoids, they were removed with Daly's scraper, and a week afterwards the nose was irrigated with an alkaline solution. After this had been employed daily for some days, my patient informed me, that when she blew her nose her left ear made a noise which her sister heard "across the room." I examined the ear, and found the drum apparently normal; the hearing of the right ear was now five feet. April 6th I was sent for and told the noise was again present. On my arrival the patient used her saline solution and inflated her tympanum. I then heard the sound, and though I stood twenty feet away, I still heard it distinctly. It resembled the sudden inflation of a small bladder. Testing the Eustachian tubes, a large sized bougie entered freely.

INCOMPLETE FORMS OF DISSEMINATED SCLEROSIS.

M. Charcot, in a recent lecture on some of the difficulties of diagnosis in case of disseminated sclerosis, brought forward two cases which are worth notice. The first was that of a woman B., who had at one time or another all the chief symptoms characteristic of the disease, but who had gradually lost some of them. She had had most marked tremor on voluntary movement, attacks of vertigo, and most irregular gait; but all these symptoms had disappeared completely except the last, which had very much improved. Still there was quite enough left to show what was the nature of her disease. She had still the characteristic "scanned" speech, the lateral nystagmus, and the exaggerated patellar reflex. The loss of the other symptoms should serve as a reminder of the variability and temporary relief that sometimes occur in disseminated sclerosis, and should lead to a particularly careful study of the past history of such patients. In the other case, a woman C., æt. 41, the mode of origin was in an attack of rheumatism with hyperpyrexia (106° F.), and the symptoms which then developed themselves were remarkable, and carefully observed by

M. Féréol. The attack was fifteen years ago, in 1876, when the patient was twenty-six, and was most acute. It was very justly called "cerebral rheumatism." After acute articular rheumatism for ten days, there was loss of pain and complete collapse; the temperature rose to 106° F; the face was pale, the hands and feet cyanotic, the pulse almost imperceptible. A cold bath was given, and after it came some revival with signs of bulbar and spinal excitement, resembling in some points tetanus, chorea and epilepsy. Seven baths were given in eighteen hours. There was frequent opisthotonos, with the *risus sardonius* of tetanus, the loud shouting of delirium, and varied convulsions of all parts. But after about twenty-four hours the hyperpyrexia was subdued, slight articular pain returned, and there was decided improvement in strength, and a slow convalescence began. The nervous symptoms, however, did not pass off entirely. The opisthotonos and convulsions ceased, but there remained a slight choreic movement, which developed itself gradually into a jerky motion accompanying voluntary muscular action; and the speech, which was at first irregular and hesitating, became more definitely "scanned," and the gait halting and irregular after the fashion of the gait of disseminated sclerosis. This was all developed and accurately described within six weeks of the acute rheumatic crisis in July, 1876. Up to 1880 the tremor on voluntary movement was too violent to allow her to feed herself; but in 1880, under the care of Dr. Laseque, there was some improvement, and since then further improvement, so that now she is able to move quietly almost without tremor, to walk without difficulty, and the intelligence and memory are good. There is still nystagmus, "scanned" speech, and some want of balance.—*Le. Progrès Médical*.

HEREDITARY TUBERCULOSIS.

After referring to the important part played in infantile tuberculosis by the increasing habit of artificial feeding, M. Landouzy (*Revue de Médecine*, 1891) protests against looking upon all cases of tuberculosis as arising after birth; nor does he think that the question of heredity is one of suitability of the soil alone, but also of actual bacillary infection. In the transmission of variola, whooping-cough, syphilis, etc., to the foetus, the same difficulties are not raised as in tuberculosis. The author and M. Martin proved experimentally in 1883

that inoculation from a foetus born of a phthisical mother, and yet with no naked-eye tuberculous lesions, would produce tubercle in guinea-pigs. The recent case reported by Birch-Hirschfeld and Schmorl, where tubercle bacilli were found in the placenta, and also in small numbers in the foetal liver, is referred to. These results resemble those obtained by Johne and by Malvoz in the case of the foetal calf. They also agree with the experimental evidence as to the transmission of the anthrax bacillus through the cow to the calf. The rarity of tuberculous lesions themselves in the foetus is perhaps not so astonishing. The foetus is "bacillised," but time is needed for the bacilli to grow and fructify. If this delay in their development be granted, then hereditary tubercle resembles hereditary syphilis, but it occurs late. Thus it may be understood (1) that such a foetus can convey tuberculosis, by inoculation and (2) that the presence of the bacilli (bacillosis) in the infant gives rise to vague symptoms referred to teething, cold, etc., and later to any of the various tuberculosis lesions. The question is next considered as to whether the foetus may be infected from the paternal germ, the mother remaining healthy. M. Landouzy refers to a remarkable case showing that this may occur. Hereditary tuberculosis should be studied under two aspects: (1) Typical forms. The foetus is born not only capable of receiving the bacillus, but actually containing it. The development of the bacillus may be hastened or retarded by many circumstances. (2) Atypical forms. This consists really in the transmission of a veritable diathesis. It is supposed to be due to a bacillary toxæmia, the foetus having escaped the bacillary infection. It is a condition in which not only is no immunity against tubercle conferred, but the tissues are prepared for the reception of the bacillus. The author puts out the multilethality of the offspring of the tuberculous father—how the foetus arrives at term with difficulty, or the infant dies of so-called congenital debility at an early age, and with no special symptoms or anatomical lesions. M. Landouzy says that tuberculosis and marriage, like syphilis and marriage, is a question of social hygiene.—*Brit. Med. Jour*.

SUBCORTICAL ALEXIA.

Adler (*Berliner klin. Wochenschr.*, 1890, No. 16) records the case of a patient, aged 52. He had an attack of apoplexy, which was probably due to embolism. There was

no previous history of mental deficiency. The attack lasted two minutes, and there was no disturbance of consciousness. There were movements of the head and the left arm. After the attack he remained in an aphasic condition, which at the end of two months had improved very little, and it appeared that the particular variety was that which Wernicke has described as subcortical alexia. The symptoms were uncertainty of seeing correctly letters when he tried to copy them, although he wrote correctly from dictation; there was some color blindness; he knew objects perfectly well although he could not name them; complete right hemianopsia was present. The author supposed the following lesions to exist: destruction of the optic fibres in the left occipital lobe, interruption of the path from the right optic cortex to the left speech region, and destruction of the commissural fibres between the two occipital lobes.—*Brit. Med. Jour.*

ON ALBUMINURIA, TRANSIENT AND DIETETIC.

Dr. Henry B. Milliard, in the *N. Y. Med. Jour.*, in writing upon this subject, states: As regards albuminuria from a prognostic point of view, if the albumin is found beyond question to be true serum albumin and not caused by cystitis, elytritis, trachelitis, etc., whether it be cyclic, permanent, transient, or intermittent, whether only traces are found or it exists in a measurable percentage, it never can be safely assumed that harm can never come of it. I speak of chronic conditions. Great vigilance should be exercised in the observation of these cases. The urinary secretion should be measured, the amount of solids estimated, and the nutrition of the system as regards growth or waste, etc., ascertained, the arterial tension and cardiac condition noted, and these data not once simply but oftener if necessary, and in many cases for a continued period. "Renal inadequacy," a very suitable term, first employed, I believe, by the late Sir William Gull—that is, incapacity of the kidneys to form and excrete the proper amount of solids, and a deficient formative capacity which usually accompanies marked albuminuria—is an important factor in the prognosis. If the amount of solids fall much below what should be voided according to the diet and weight of the patient, and that persistently, there is ground for believing that serious pathological changes are being or have been developed. The average

amount of solids voided by a man in health being placed at fifty-eight grammes, any great diminution for a continued length of time of solids excreted is significant. A very close approximation to the amount of solids (in grammes) voided can be obtained by Trabb's well-known simple rule—that is reducing the number of ounces voided in twenty-four hours to cubic centimetres by multiplying by thirty, then multiplying this again by the last two figures of the specific gravity multiplied by two. Of course the diet, stature, weight of the subject, amount of exercise, perspiration, etc., must be considered. Forty-eight ounces being taken as the amount of urine voided in twenty-four hours and the specific gravity being 20, we should have about fifty-eight grammes of solids excreted. The aid of the microscope should always be enlisted. In slight albuminuria and in albumina minima the microscope rarely shows any of the elements of renal inflammation. Proliferation of the connective tissue, mild catarrhal nephritis, and glomerulitis may exist for a long time unaccompanied by changes in the tubules. These in time are, however, likely to become involved, and then renal epithelial casts, blood-corpuscles and pus-corpuscles, variously, may be found. It has been a not infrequent experience with me, however, that cases have been pronounced albuminuric when the albumin has been simply an accompaniment of slight catarrh of the bladder or of the prostatic portion of the urethra. I have never seen these cases, no matter how slight, where I could not recognize albumin, sometimes not more than one two-hundredth or one two-hundred-and-fiftieth of one per cent., either by Tanret's or by my own test. If the cystitis is sufficiently marked for numerous pus-corpuscles to be found under the microscope, Heller's test will probably show a sharp line at least one ninth of a line in thickness, which indicates about one ninetieth of one per cent. of albumin. The urates, too, may show this same sharp line. But if we have renal albuminuria to deal with, if persistent, no matter how favorable all physical conditions may seem, we can not assert with perfect confidence that serious lesions may not in time become manifest, and every precaution as regards dress, diet, and care in living should be observed. I should not class as intermittent albuminuria those cases produced by hard study, taking cold, etc.

After albuminuria has existed for a long time, I have known it only in a small proportion of cases to disappear permanently,

and then after a long and rigid course of treatment. Nevertheless, I have had under my observation patients in whose urine I could always find $\frac{1}{10}$ to $\frac{1}{20}$ or $\frac{1}{30}$ per cent. of albumin for several years consecutively without the occurrence of what could be considered renal symptoms. At the same time I should, however, state that the health of these patients was seldom perfectly good. Common symptoms would be a depressed condition of the strength, loss of appetite, the uric or oxalate-of-calcium diathesis. The cases without renal symptoms of some sort at some period were, however, quite exceptional.

Permanent albuminuria, even if intermittent, according to my experience, usually implies in some way impaired health or some latent pathological condition.

As to when albuminuria may be considered cured: Not until at least a long time has elapsed, the urine being examined from time to time in the most careful manner without albumin being found, arterial tension is absent, the heart is normal, and the health is good, we may hope that the albumin may not return.

Should cases of chronic albuminuria, simply from the fact of albumin being found, be rejected by life-assurance examiners? I believe they should not. I have known some albuminuric patients who enjoyed practically good health and lived to a good age. Albuminuria is not always a more threatening symptom than other symptoms. An albuminuric patient may occasionally be in every respect a good risk. There are cases where repeated and comprehensive examinations must be made before the examiner can decide as to the interests of his company. There can be no unvarying rule as to this point. I have known albuminuric subjects rejected whose health was good, and applicants with other affections more serious than some of these cases accepted.

What Lecorché and Talamon say is pertinent to this subject: "It is impossible to attach any prognostic value, direct and immediate, to the presence of albumin in the urine. Albuminuria indicates an alteration of the glomerular filtering membrane; transient or permanent, abundant or minimal, it indicates nothing else; it affords us no information as to the profundity and extent, and consequently none as to the gravity, of the lesion. To form an opinion of this, other elements of appreciation and other phenomena, general or local, must be considered conjointly with the albuminuria."

Of course, if even albumina minima or intermittent albuminuria are accompanied

by arterial tension and the significant signs of cirrhosis—such as headaches, disturbances of vision and debility, and insufficient excretion of solids by the kidneys—the case is perhaps more than doubtful, and the dread *sequela* of advanced morbus Brightii—such as atheroma of the arteries, miliary aneurisms, loss of the renal functions—are to be expected.

Finally, all persistent albumina, *maxima* or *minima*, are always to be watched.

SURGERY.

THE VALUE OF REST IN SURGICAL CASES.

Among the works which have left a deep and lasting imprint upon the medical mind, that of John Hilton, on "Rest and Pain," must be awarded a prominent place. In his address on Surgery delivered before the British Medical Association, Professor Chiene, of Edinburgh, bears testimony to the great influence which Hilton's teachings had exercised on his own success in the practice of surgery. Prof. Chiene discussed the mental and bodily aspects of rest and unrest, and called attention to the fact that it is not work, but worry—mental unrest which kills; so that a person will bear much physical discomfort to be relieved of the mental discomfort of his condition. This is well illustrated in cases of cancer, where the refusal to operate often occasions great mental depression, while an attempt to remove a tumor—even if unsuccessful—will often give the patient a feeling of mental rest in the very thought that no stone has been left unturned in the endeavor to afford relief. There is another aspect of the mental side of disease, which, in Prof. Chiene's opinion, has not received the attention which it deserves. When a patient is confined to his bed away from his work, he is often suffering as much from the worry of mental inactivity as from the physical disease for which he is under treatment. In these cases decided improvement may be effected by encouraging the patient to do some light mental work. Diagnostic incisions are also a valuable aid in avoiding psychical unrest, for they increase the patient's faith in the surgeon's ability to choose the proper method of treatment. Pain given to a patient, whether in the dressing of a wound, or in the examination necessary to make a diagnosis, is a fertile cause of unrest, and should be avoided by every means in our power. The avoidance of movement in dressing the wound will do

much to prevent pain, and for this purpose the author recommends the many tailed bandage which permits of exposure of the wound without movement of the limb. He also points out that the use of unnecessary strong antiseptics on wounds is one of the most frequent causes of local unrest. The employment of absorbable drains will obviate the necessity of a change of dressing for the removal of the drain, and therefore may be regarded as an other aspect of Hiltonism. Although pressure and careful apposition of the edges and surfaces have to a great extent done away with drainage of any sort, it is safer to employ drains for at least twenty-four hours after operation, so as to avoid accumulation of blood in the wound and consequent delay in healing. If India rubber tubes are used they should be made to project beyond the wound surface, so that the blood and serous discharge may pass into the dressing, and have no tendency to pass along the skin surface to the edge of the dressing. To steady limbs after amputations and excisions, leaden splints are employed by the author, the splint being shaped so that it can be unfolded without moving the limb. Pressure should be applied firmly, but care should always be taken to leave the distal portion of the limb exposed, so that if it swells the bandages may be loosened. Prof. Chiene thinks that extension is not sufficiently used in fractures of the upper extremity or after excision of the knee and elbow. In fractures, injuries, and diseases of the spine, in sacroiliac disease and fractures of the pelvis, the use of double extension is of undoubted value. In all cases in which complete rest of the trunk is called for, he recommends a thick, firm mattress made in three pieces, the central portion of which can be withdrawn for the performance of the acts of defecation and urination and the examination of the body for bed sores. In injuries of the hip he has given up the use of Nelaton's line, because in order to reach the ischial tuberosities necessary for estimating the line the patient has to be moved. Its place is taken by noting the want of parallelism between the two tapes, one passing through the anterior superior spinous processes and the other through the tips of the great trochanters. In cranial surgery the curved incision suggested by Horsley, enables us to form a flap for covering and supporting the denuded brain matter or dura. In spasmodic wry-neck where the patient is in constant unrest, relief may be afforded by excision of a portion of the spinal accessory nerve, as shown by several cases in the author's hands.

In rectal surgery gradual dilatation of the sphincter ani before operation gives rest after its performance, as it is followed by temporary paresis. To afford rest to the bladder the author recommends the introduction of a gum elastic catheter to which is attached a rubber tube passing into a vessel filled with water, the latter being placed at the proper level, to produce a syphon action. Rest may also be induced by perineal section or suprapubic cystotomy. In the treatment of cut-throat the immediate performance of tracheotomy and accurate coaptation of the wound facilitates rapid healing, because movement of the parts is reduced to a minimum. In the application of a bandage to varicose veins or the application of a truss, the apparatus should be applied before the patient gets out of bed and taken off after he is in bed, for if the veins are allowed to fill and the hernia to come down, the good of the previous twelve hours support of the retentive apparatus is nullified by the temporary unrest.

We have quoted extensively from Prof. Chiene's address, because of the many practical suggestions of value contained in it. The doctrine of rest as a curative factor in surgical affections is certainly appreciated by all conservative surgeons and finds in Prof. Chiene an able exponent.—*Internat. Jour. Surg.*

THE TREATMENT OF COMPOUND POTT'S FRACTURE.

Hamilton (*Liverpool Medico-Chirurgical Journal*, July, 1891) writes that although compound Pott's fracture is a rare accident, it is difficult to treat successfully. From an experience of seven cases he is convinced that it is bad practice to reduce the tibia and drain, because it is impossible to drain thoroughly, as the articular surface of the tibia fits so closely the trochlear surface of the astragalus.

He, therefore, enlarges the wound, saws off the end of the tibia, and makes a longitudinal incision three inches in length behind the fibula, and if necessary removes a corresponding portion of the fibula. Two large drainage tubes are inserted on the inner side behind the bones, and out at the wound on the outer side.

The limb is put up on a "waxed splint," which prevents the discharge running up the leg, and so necessitating a frequent change of splints. The mere fact of moving the limb sends the temperature up, and may be the beginning of much trouble after-

wards. A third factor is absolute care and cleanliness when the case first comes under observation; no sponges are used, and the cases, for the most part, are dressed perfectly dry.

ATRESIA OF THE RECTUM—ARTIFICIAL ANUS.

Dr. F. de P. Bernaldez reports a case in which an artificial anus was made for complete atresia of the rectum. The patient was a male infant, 4 days old. As his bowels did not move, they tried to apply enemata, but found no anus. All the other organs were normal. The patient was very small, and had icterus. The abdomen was enlarged and tympanitic, and its veins were swollen. At the place where the anus ought to have been, a prominent cord was felt, giving rise to the hope that the rectum was not very high up. An incision, 3 centimetres ($1\frac{1}{2}$ inches) long, deepening gradually to 4½ centimetres ($1\frac{1}{2}$ inches), was made, without encountering the bowel. The person who presented the baby would not allow anything further done; so the wound was sutured, and the child taken home. Next day it was brought again. The wound was re-opened, but, even at 6½ centimetres ($2\frac{1}{2}$ inches), no bowel could be found. The wound was closed again, and an artificial anus established in the left iliac fossa, with good results (four- and one-half months after operation).—*Revista med. de Mexico*, January 15, 1891.

EXTIRPATION OF THE VESICULÆ SEMINALIS.

At the recent French Surgical Congress, Dr. Roux, of Paris, stated that in tuberculosis of the genital organs it is a mistake to remove only the testicles, since he has often observed fistulæ and abscesses extending along the spermatic cords after castration. It is therefore necessary to extirpate not only the testicle but also the corresponding vas deferens and seminal vesicle. The author reported two cases in which after removal of the testicle the vas deferens was carefully separated from the vessels of the spermatic cord, which were then tied and divided. An incision was then made in the perineum, the vesiculæ seminalis pushed into the wound by the finger introduced into the rectum and excised, and the vas deferens entirely removed. The results were excellent.—*Le Semaine Medical*.

GYNÆCOLOGY.

THE USE OF VAGINAL TAMPONS.

Sellman (*Journal of the American Medical Association*, July 11, 1891) intends to convey in this paper his impressions of the dangers attending the use of tampons, and also to prove that on many occasions when we think that we have applied them in a scientific manner, it has been improperly done, and carried out in a manner that will do much harm to our patient and perhaps develop injuries that may require months of treatment to overcome. Vaginal tampons introduced for hæmostatic purposes are seldom required, and when used are likely to be attended or followed by great injury. He makes this exception—the use of the tampon for the purpose of provoking uterine contractions and softening of the cervix—in cases where it is desired to bring on premature labor, as, for example, cases of placenta prævia. The packing of the vagina is sometimes justifiable in cases of hæmorrhage due to the presence of uterine fibroids. In hæmorrhage occurring during the progress of cancer of the cervix it is unsafe to tampon. The presence of tampons in the vagina interferes with the evacuation of the bladder and with the proper emptying of the rectum. Tampons are responsible for the production of serious inflammatory conditions of the uterine adnexa, peritoneum and cellular tissue. He advises the application of tampons only under the following conditions: In office practice, after making an application to the endometrium, if the agent employed is likely to flow down and excoriate the external genitals. This is to be removed as soon as the patient reaches home. In cases of prolapse of the uterus, where there is no uterine catarrh—used as a pessary. Also in cases of prolapse of the vaginal walls under similar conditions. After plastic operations upon the vaginal walls, where there is no danger of hæmorrhage taking place above the point where the tampon has been placed. In cases of hyperplasia, with little or scanty secretion from the endometrium.—*Univ. Med. Mag.*

ICHTHYOL IN TUBO-OVARIAN DISEASE.

At a meeting of the Turin Academy of Medicine, on June 12th, Dr. Albertoletti reported (*Riforma Medica*) the results of an extended trial of ichthyol made by him in the Maria Vittoria Hospital on a number

of women suffering from salpingo-ovariis, endo-, peri-, and para-metritis, etc. He used almost exclusively the sulpho-ichthyolate of ammonium, which he gave internally in pills, or by inunction in the form of pomade, or by intra-uterine injection. He sums up the results obtained as follows: Resolution in a relatively short space of time of endometritis in cases which had proved refractory to the most active treatment; absorption (not always complete however) of peri- and parametric exudations; cessation of pain in every case without exception. The remedy, according to Dr. Albertoletti, has this marked advantage over other remedies that whilst at least equally efficacious, it is perfectly well borne in all cases, and can therefore be used when other forms of medication are inadmissible. Dr. Bergesio, in discussing the paper, confirmed Dr. Albertoletti's conclusions in every particular, and said that ichthyol seemed to be destined to solve many therapeutic problems relative to utero-ovarian disease.—*Brit. Med. Jour.*

OBSTETRICS.

PUERPERAL PSYCHOSES.

R. Olshausen in the *Zeitsch f. Geb.-u. Gynæk*, Bd. 21, 91, recommends the division of puerperal psychoses into three classes. First, one dependent on febrile affections—infection psychoses. These are principally cases of puerperal pyæmia, and ulcerative endo-carditis, more rarely cases of so-called septicæmia. When these diseases lead to psychoses the direct cause is generally a meningitic or encephalitic affection, and especially capillary embolisms. The second division is the idiopathic without general febrile disease. To this belong the greater number of the psychoses of pregnancy, lactation and childbed, in which occasionally weakening factors, such as loss of blood, are the exciting cause. The third division is that of psychoses of intoxication after eclampsia, or in exceptional cases, from anæmia without eclampsia. In 531 cases of eclampsia there were 31 psychoses, or 6 per cent. In the Berlin Klinik, in 200 consecutive cases of eclampsia in 5½ years there were 12 cases of primipara and 5 multipara. In several cases the psychosis was preceded by unusually long-continued eclamptic sopor. They did not by any means belong to the severest cases of eclampsia. The psychoses almost always began in the early part of childbed

with hallucinations of sight and hearing. There were 2 cases of melancholia, and 2 of mania. Most of the cases had the character of hallucinatory insanity, but with unusually rapid termination in recovery. It is of interest symptomatically that in a number of the cases the pulse and temperature reached an unusual height, 160° and 102.4° without any cause. Therapeutically chloral by the rectum was the best.—*Med. Press.*

PÆDIATRICS.

CHEMISTRY OF THE STOMACH IN INFANTS.

Clopatt, (*Rev. Mens. des Mal. de l'Enf.*, June, 1891) concludes as follows:

1. The gastric juice of infants has an acid reaction.
2. In children at the breast the acidity varies very little, differing not more than from three to eight-hundredths of one per cent. at the end of the first hour.
3. Gastric digestion is accomplished without the formation of free hydrochloric acid. It is only exceptionally that analyses show the presence of traces of this acid.
4. In children at the breast the fixed chlorides show a remarkable constancy.
5. In bottle-fed children, absolute acidity is often more pronounced than in the breast-fed. At the end of the first hour there is frequently more than one-tenth of one per cent. of acid.
6. In bottle-fed infants there are other acids besides hydrochloric.
7. The quantity of fixed chlorides is more subject to variations with bottle-fed than with breast-fed infants.
8. The changes in the acidity and other qualities which are determined by analysis are not exactly proportioned to the time.

ASTHMA OF CHILDREN.

R. Blache (*L'Union Médicale*) defines asthma as a bulbous disease, in which attacks are produced by impressive irritations of the vagus or peripheral nerves, particularly the trigeminus; the reflex action manifests itself by successive or simultaneous spasms of all the intrinsic inspiratory muscles, intercostals, scalensæ, trapezii, etc., and by a tetaniform contraction of the diaphragm.

Blache thus classifies the disease into three forms: Pneumo-bulbous asthma, essential or nervous asthma, emphysematous or alveolar asthma, catarrhal or bronchitic asthma.

Nervous asthma governs all asthmatical pathology of children. A class of asthma in infantile pathology which holds a place whose importance increases every day as the pathogeny of the affections are better known, is the class of reflex asthmas in general; these are the cases in which the bulbous irritation does not leave the broncho-pulmonary filaments of the pneumo-gastric. The bulb is then impressed by an excitement springing from all the peripheric branches of the vagus, but again from the other nerves—as the trigeminus and the cutaneous nerves—so that nasal asthma, pharyngeal asthma, amygdalitis, gastric asthma, and cutaneous asthma belong to the category of dyspnoeas. Nasal asthma has only been known a few years; Voltolini, in 1874, published the first facts relating to mucous polypi determining the approach of transient dyspnoea. Mucous polypi are rare in children; but, on the contrary, adenoid tumors are very frequent and a usual cause of nasal asthma. Hypertrophic rhinitis is also a frequent cause; this may be a primary disease or follow successive attacks of acute coryza, or infectious fevers, as measles and typhoid fever; it may be secondary to another nasal lesion, malformation of the nose, deviating thickness of the partition, foreign bodies, affections of the naso-pharyngeal canal, catarrh, and adenoid growth. More than this, this rhinitis is at times connected with diseases which attack the stomach (Bouchard, Ruault), the intestines (Secchi, Buck), genital apparatus (J. Mackenzie, Joul).

With such a child, predisposed to bulbous irritability, either by diathesis or heredity, and to nasal erectibility following the preceding lesions, an attack of asthma may be brought on by congestion following cold, by the action of vegetable or animal powders, by the influence of odorous matters, by the contact of a probe on the pituitary gland, by an untimely nasal irrigation, and by remote causes, stomachic, intestinal, or genital excitations.

The treatment recommended for the attack is fumigation by belladonna cigarettes, henbane, or the leaves of datura. stramonium, nitre paper, inhalations of oxygen, or ioduret of ethyl, but in many cases the hypodermic exhibition of morphine will be required to produce even momentary relief. In a general way, opium ought to be very prudently used with children; belladonna is much safer and can be used longer. Bretonneau and Guersant mix

one centigramme of the extract to one centigramme of the powder of belladonna, giving this each day and continuing for some time. The tincture of lobelia inflata may be given in a dose gradually raised from 20 to 100 drops. Moncorvo remarks that the endurance of children for the treatment permits him to raise the dose 10 and 12 grammes in twenty-four hours. Blache has obtained excellent results from tincture of grindelia robusta, which he gives to children in doses of from 15 to 60 drops. Inhalations of vapor of pyridine, advised by M. Sée, having helped Blache to lessen the force of the attack. According to Laborde and Daudrie, this substance lessens excito-motor force, dilates peripheral vessels, and has a paralyzing action on the vaso-constrictor nerves; hence it increases the fulness of respiration, at the same time the respiratory movements regulate themselves and diminish in frequency. The curative treatment of asthma limits itself to the almost exclusive use of iodine, particularly the iodine of potassium. The anti-dyspnoeac effects of this agent on the brain, and particularly on the bulb, are certain; Binz states that it paralyzes the nervous functions and produces narcotism; in every case it moderates the exciting power of the vital centre and regulates the distribution of the nervous influx.

Asthmatics presenting hyperæmia of the nasal mucous membrane are more easily affected with iodism. In cutaneous asthmas iodine may also be contra-indicated as aggravating the skin condition. At times the emaciation and loss of strength make it necessary to interrupt the treatment. Pyridine by aspiration, tincture of grindelia, arsenic, and aërotherapy by compressed air are, then, the only means which remain at the disposition of the practitioner. The iodine treatment is applicable to non-diathetic asthma; it is contra-indicated when the disease has a telluric or hereditary origin—for example, in the arthritic or gouty—a medication favoring incomplete nutrition or modifying the morbid secretions will be indicated. Asthmatics tainted with paludalism will require quinine in combination with iodide of potassium.

Blache agrees with Simon that the value of certain health resorts cannot be overestimated; the former gives the preference to the waters of Mont-Doré, stating that their sedative and decongestive properties have produced good results, particularly in the pneumo-bulbous form; in herpetic asthma children as well as adolescents will find the

sulphorus medication good. Bigorre, Saint Honoré, and Alevard may be recommended. —*Amer. Jour. Med. Sci.*

HYGIENE.

EFFECTS OF VENTILATION ON MICRO-ORGANISMS.

Dr. Richard Stern has made experiments on this subject in a room in which he could have quiet air, or a more or less complete ventilation. The openings in the walls of the room were so arranged that he could admit the air from without either at the upper part near the ceiling and convey it off near the floor on the opposite side of the room (winter ventilation), or the air could be admitted near the floor and conducted out on the opposite side of the room near the ceiling (summer ventilation). The rapidity of the ventilation was also under complete control. The air of the room was intentionally loaded with micro-organisms. Pure cultures were mixed with the dust collected from school-rooms and factories. This was then dried and pulverized and blown about the room. The air was then examined for the number of micro-organisms, by Petri's method at various times. The conclusions arrived at were: (1) That the micro-organisms rapidly sink to the floor in quiet air. The finer the dust upon which the micro-organisms rest the slower the gravitation. (2) The usual ventilation, effecting a renewal of air from one to three times an hour, has no effect upon the removal of micro-organisms with summer ventilation, and only to a very limited extent with winter ventilation. (3) Ventilation, effecting a more rapid renewal of air (six or seven times to the hour), effects the removal of micro-organisms, but slightly without a sensible draught. (4) A rapid and complete removal of the micro-organisms from the air is only attainable with a strong draught. (5) Micro-organisms are not blown off from the floor, walls, furniture, clothing, etc., even with the stronger draughts. (6) The evolution of steam in a room is not capable of rapidly and completely precipitating the micro-organisms, although it hastens this process to an appreciable extent.—*Boston Med. Surg. Jour.*

DIMINISHED DIGESTIBILITY OF STERILIZED MILK.

In a joint paper by Professor Leeds and Dr. E. P. Davis, (*Amer. Jour. Med. Sciences*)

the former describes the starch liquefying ferment in milk which renders starch paste entirely fluid and capable of passing through a filter. This ferment is coagulated and destroyed by sterilization, which also has the effect of rendering the casein less rapidly coagulable by rennet. The peptic and pancreatic digestion of sterilized milk (that is, sterilized at 100° C.) is less complete than that of raw milk. Professor Leeds believes that milk may be rendered "practically sterile" by heating to 68° C. (155° F.) for six minutes without suffering any important diminution in its digestibility; ordinary commercial milk being always more or less acid on delivery, it is necessary before sterilizing in this way to neutralize or render it slightly alkaline with carbonate of soda or lime water. A still more advantageous method is said to be sterilization and peptonization at the same time, "the proteid matter of which the micro-organisms are composed being digested away and their vitality destroyed." This is effected by maintaining the peptonizing mixture at 155° for four minutes. Dr. Davis deals with the results of observations made on infants in the Philadelphia Hospital. Acute enteritis subsided under the use of sterilized milk, and no case of cholera infantum occurred in the hospital; cases of acute diarrhoea treated as out patients by sterilized milk speedily recovered. On the other hand, it was found that though exempt from acute intestinal disorders, nutrition did not improve, and the infants died in two or three weeks of malnutrition. Infants removed to a different atmosphere and given fresh raw milk rapidly improved. The infants while in hospital were also subjected to antiseptic intestinal treatment. Koplik (*Archives of Pediatrics*) gives a summary of previous observations upon the effect of sterilization on the digestibility of milk. Hueppe recognized a change in chemical composition occurring gradually at all temperatures between 75° C. (155° F.) and 100 C., but thought that the digestibility was scarcely diminished. Munk, Hueppe, and Chapin have all pointed out that the casein of milk suffers a change in sterilization, and is less easily coagulated by rennet. Hueppe found that milk was more rapidly and certainly sterilized and protected from subsequent acid fermentation by steam than by the boiling bath (twenty minutes in the former being equivalent to one hour in the latter.) Hirst has suggested the addition of pancreatin before sterilization "in order to digest and help the digestion of

casein made difficult of digestive solution during steaming."

MEDICAL CHEMISTRY.

AMMONIUM SELENITE AS A REAGENT FOR THE DETECTION OF THE ALKALOIDS.

Lafon (*Amer. Jour. Phar.*, 1886, p. 250) called attention to ammonium sulpho-selenite as a reagent for morphine and codeine. He prepared it by dissolving 1 gm. ammonium selenite in 20 cc. concentrated sulphuric acid. The author has studied the reagent further in its reaction with other alkaloids, placing small portions of the alkaloids in his experiments upon watch glasses set upon white paper. The following is the table he has prepared:

Atropine.—No coloration.

Aconitine.—No immediate coloration; after 20 minutes, a very slight rose-color.

Berberine.—Greenish yellow, becoming successively very brown rose at the margins and violet in the middle; half an hour afterwards entirely vinous red, which lasts for three hours.

Brucine.—Reddish or rose color, becoming pale orange; half an hour after, an amber color, and no deposit.

Caffeine.—No distinct coloration. At end of three hours, the liquid was reddish, and there appeared a slight deposit.

Cinchonine.—Nothing.

Cinchonidine.—Nothing.

Cocaine.—After half an hour, no decided coloration or precipitate. After three hours the same reaction as caffeine.

Curarine.—Slight violet coloration; after some time reddish. No red deposit at the end of three hours.

Delphine.—Slightly reddish coloration, passing into a violet red. No ppt. at the end of three hours.

Digitalin. No immediate color. Yellowish after half an hour. After three hours a reddish deposit.

Eserine. Lemon yellow color, turning to orange. Three hours afterwards the color was paler.

Morphine.—Bright greenish blue; half an hour after maroon yellow and no deposit. After three hours, the liquid maroon brown, no red deposit.

Narcotine.—Bluish color, becoming violet and then reddish. After half an hour a fine reddish color and no ppt. After three hours a small red deposit.

Narceine.—Yellow-green color, becoming brownish, and after half an hour reddish. Afterwards a red deposit, which is very distinct in two or three hours.

Papaverine.—Bluish color; the liquid becoming bottle-green; dirty yellowish green, violet blue, then red. A small bluish deposit.

Pilocarpine.—Nothing.

Solanine.—Canary yellow, and then brownish. After half an hour, a rose colored ring, and after three hours the liquid becomes violet red.

Saponin.—Yellowish, becoming slightly reddish. (Reaction not distinct.)

Senegin.—Light, dirty yellow. After three hours, liquid reddish.

Veratrine.—Indistinct yellowish color, sometimes with a green tone. After half an hour yellow. After three hours, deposit red and liquid yellowish. (Reaction indistinct.)

PREPARATION OF ABSOLUTELY PURE HYDROGEN PEROXIDE SOLUTION.

According to Crismer, absolutely pure hydrogen peroxide solution is best prepared in the following manner:

Barium peroxide is mixed with water [and made into a thin milk], then decomposed by hydrochloric acid of the specific gravity 1.100, and the solution afterwards shaken with ether. The latter dissolves out a portion of the hydrogen peroxide. It is separated and shaken with pure water, to which it yields a portion of the dioxide. The ethereal solution is now separated and again brought in contact with a fresh portion of barium solution. The same operation is repeated several times. Finally there is thus obtained a solution containing 0.5 to 0.9 per cent. of hydrogen dioxide which is absolutely neutral and free from other constituents. It contains no chlorine, but a little ether which assists in its preservation, and which may be removed, if necessary, by distillation in vacuo. The percentage of pure hydrogen dioxide diminishes very slowly by keeping.—*Bull. Soc. Chim. Paris and Chem. Centralbl.*

NEWS AND MISCELLANY.

POLYCLINIC EVENING LECTURES.

The Faculty of the Philadelphia Polyclinic deliver two evening lectures a week at 8 o'clock, during the course of 1891 and 1892. The following lectures are announced:

Oct. 27.—Dr. C. K. Mills, "Aphasias, and How to Study and Treat Them."

Oct. 30.—Dr. G. Belton Massey, "Some Everyday Experiences in Electro-Gynecology."

Nov. 3.—Dr. Edward Jackson, "Shadow Test."

Nov. 6.—Dr. B. F. Baer, "A Plea For Early Diagnosis."

Nov. 10.—Dr. Edward Jackson, "Shadow Test."

Nov. 13.—Dr. B. F. Baer, "The Treatment of Retro-Displacements."

Nov. 17.—Dr. T. S. K. Morton, "Appendicitis."

Nov. 20.—Dr. R. W. Seiss, "Treatment of Aural Pain."

PROGRAMME OF THE SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

The following is the preliminary programme of the session of the Southern Surgical and Gynecological Association, to be held in Richmond, Va., Nov. 10th, 11th and 12th, 1891:

PAPERS TO BE READ.

The President's Annual Address—Louis S. McMurtry, M. D., St. Louis, Mo.

Remarks on Systematic Infection from Gonorrhœa, Illustrated by Cases—Bedford Brown, M. D., Alexandria, Va.

The Rational Treatment of Peritonitis Based upon the Consideration of the Pathological Conditions Present—W. D. Haggard, M. D., Nashville, Tenn.

A Medico-Legal Aspect to Pelvic Inflammation—W. W. Potter, M. D., Buffalo, N.Y.

Complications in Pelvic Surgery, and How to Deal with Them—Joseph Price, M. D., Philadelphia, Pa.

Cholecystotomy—Report of Case—52 Gallstones and 10 Ounces of Pus Removed—Success—W. B. Rogers, M. D., Memphis, Tenn.

Some of the Complications of Psoas Abscess—J. McFadden Gaston, M. D., Atlanta, Ga.

Laparotomies Performed in the Past Year—Thomas Opie, M. D., Baltimore, Md.

Imperforation of the Rectum—Geo. Ben. Johnston, M. D., Richmond, Va.

A Case of Induced Abortion for the Relief of the Nausea and Vomiting of Pregnancy, with Remarks—Christopher Tompkins, M. D., Richmond, Va.

The Principle of Drainage as Applied to Surgery of the Deep Urethra—F. W. McRae, M. D., Atlanta, Ga.

The Neuroses of the Genito-Urinary System in the Male—Frank Lydston, M. D., Chicago, Ill.

Nephrectomy, with Report of Cases—Edwin Rickets, M. D., Cincinnati, O.

Venomous Serpents of the United States, and the Treatment of Wounds Inflicted by Them—Paul B. Barringer, M. D., University of Virginia.

A Report of Some Additional Cases of External Perineal Urethrotomy Without a Guide—J. Edwin Michael, M. D., Baltimore, Md.

Growth of Fibroid Tumors of the Uterus after the Menopause—Jos. Taber Johnson, M. D., Washington, D. C.

The Part the Shoulders Play in the Production of Laceration of the Perineum, with Suggestions for Its Prevention—W. D. Haggard, M. D., Nashville, Tenn.

The Pedicle in Hysterectomy, How Formed; Its Subsequent Behavior; Its Final Condition—I. S. Stone, M. D., Washington, D. C.

A Case of Pelvic Abscess—John Brownrigg, M. D., Columbus, Miss.

A Case of Cyst of the Mesentery, with Remarks—J. A. Goggans, M. D., Alexander City, Ala.

The Female Urethra—K. P. Moore, M. D., Macon, Ga.

Medico-Legal Aspect of Intestinal Surgery—J. D. S. Davis, M. D., Birmingham, Ala.

Albuminuria; Its Relation to Surgical Operations—J. W. Long, M. D., Randleman, N. C.

Senile Gangrene—Frank Prince, M. D., Bessemer, Ala.

Hæmorrhage versus Shock—W. L. Robinson, M. D., Danville, Va.

Treatment of Gallstones, with Report of Cases—W. E. B. Davis, M. D., Birmingham, Ala.

(Title of paper not determined)—Hunter McGuire, M. D., Richmond, Va.

(Title of paper not determined)—Duncan Eve, M. D., Nashville, Tenn.

(Title of paper not determined)—A. L. Brokaw, M. D., St. Louis, Mo.

(Title of paper not determined)—Chas. A. L. Reed, M. D., Cincinnati, O.

(Title of paper not determined)—W. F. Westmoreland, M. D., Atlanta, Ga.

LOUIS S. McMURTRY, M. D., President.